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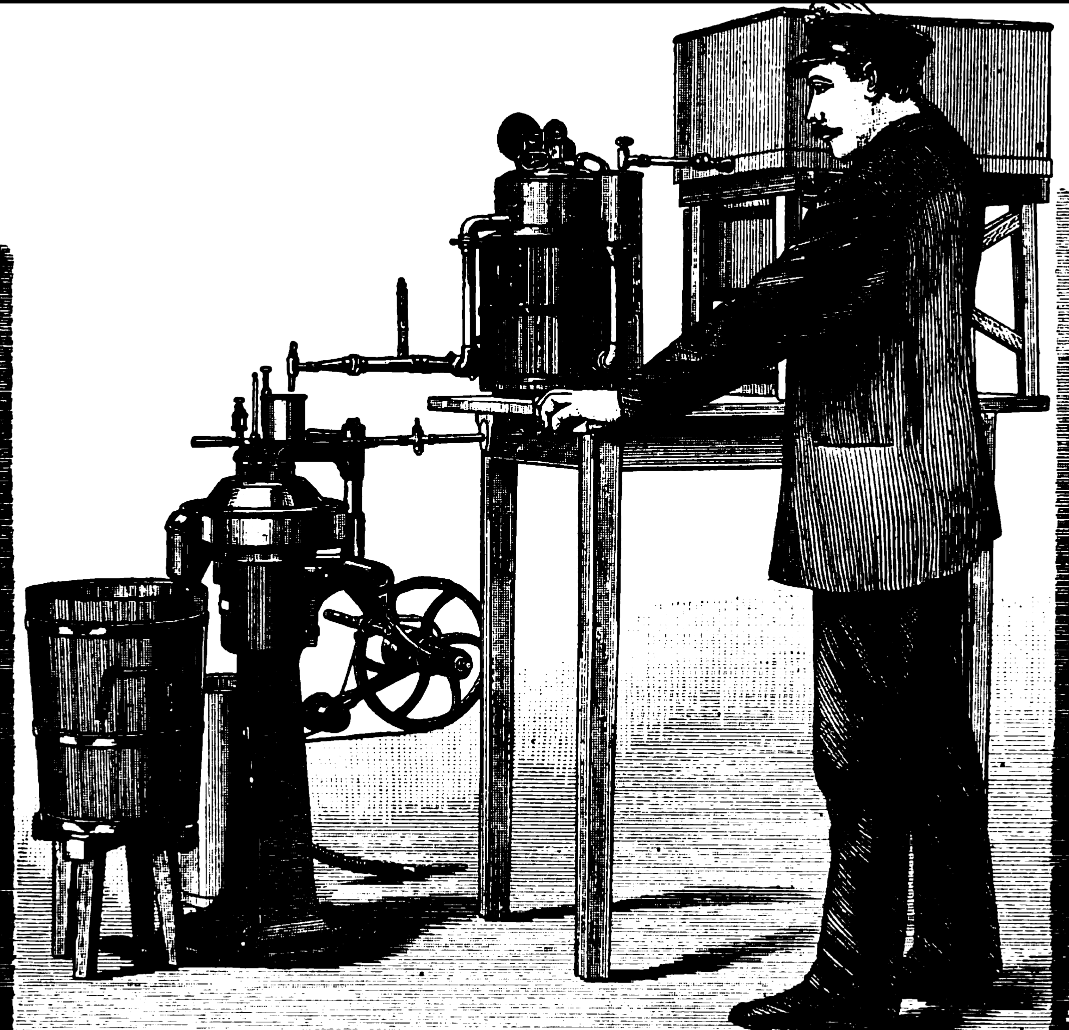

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[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

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PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885-86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

CONTENTS.

Page.
I.—United States Trade with Japan.............................*Connelly* 1
II.—Progress and Present Condition of Japan.....................*Jones* 12
III.—American Manufactures in Japan.................................*Dun* 15
IV.—Merchant Marine of Japan.......................................*Merritt* 17
V.—Commerce of Hakodate...*McIvor* 19
VI.—Freight Rates between China and the United States...*Seymour* 20
VII.—Foreign Trade of Siam.......................................} *Barrett* 21
VIII.—Irrigation in Siam...} 30
IX.—Currency Reform in Russia.......................................} 33
X.—Gold and Paper Money in Russia..................................} *Karel* 34
XI.—United States Gold Coin in Russia..............................} 39
XII.—Bimetallism in Germany...*Moore* 41
XIII.—Currency of Morocco..*Barclay* 45
XIV.—Commerce of Spain in 1895...*Bowen* 47
XV.—Malaga's Trade with the United States..............................*Burke* 49
XVI.—Trade of Almeria..*Fischer* 52
XVII.—Spanish Fruits and Nuts..*Bowen* 53
XVIII.—Peruvian Salt Monopoly...*McKenzie* 55
XIX.—Sugar Industry of Peru..*Jastremski* 56
XX.—South Wales Tin-Plate Trade...*Howells* 67, 72
XXI.—Transportation Tariff for American Goods from Genoa to Zurich.........*Germain* 77, 79
XXII.—Fruit Trade of Sicily with the United States........} *Caughy* 81
XXIII.—Lemons and Lemon Orchards in Messina..................} 82
XXIV.—The Poppy and Opium in Persia....................................*McDonald* 83
XXV.—Bean Raising in Ontario..*Bishop* 86
XXVI.—Plum Culture in Bosnia..*Stephan* 88
XXVII.—Potatoes as Food for Cattle and Sheep.........................*Bartholow* 90
XXVIII.—American vs. European Interests in South America...*Thompson* 91
XXIX.—Hankow Tea Trade..*Child* 93
XXX.—Production of Salt in Russia..*Karel* 95
XXXI.—New Railroad Station in Dresden......................................*Carroll* 96
XXXII.—Electric Street Railways in Dresden..........................*Monaghan* 97
XXXIII.—Proposed Margarin Law in Germany...................................*Moore* 98
XXXIV.—Sault Ste. Marie and the "Soo" Canals.............................*McCall* 100
XXXV.—Berlin's Industrial Exhibition..........................} *de Kay* 109
XXXVI.—Berlin's Trade and Industrial Fairs..................} 110

Page.
XXXVII.—CLOAK AND CLOTHING STRIKE IN GERMANY.........................*Judd* 112
XXXVIII.—IMMIGRATION CONTRACT WITH VENEZUELA.....................*Plumacher* 114
XXXIX—MARITIME TRADE OF PACIFIC COAST OF SOUTH AMERICA...*Jastremski* 116
XL.—TARIFF CHANGES IN ANTIGUA..................................*Bartleman* 117
XLI.—SIERRA LEONE: RAILROAD, BOUNDARY COMMISSION, TRADE, ETC...} *Pooley* 124
XLII.—WORK ON THE SIERRA LEONE RAILWAY.......................} 125
XLIII.—DEVELOPMENT OF SOUTHEAST AFRICA............................*Andrews* 127
XLIV.—GERMAN-BULGARIAN TRADE.....................................*Monaghan* 129
XLV.—GOVERNMENT SUPERVISION OF INSURANCE COMPANIES IN GERMANY...*Moore* 130
XLVI.—NOVA SCOTIA STEEL AND THE CANADIAN BOUNTY..........*Pendleton* 131
XLVII.—A RUSSIAN VIEW OF SEAL HUNTING.............................} 132
XLVIII.—RUSSIAN REGULATIONS AS TO IMPORTS OF PLANTS, FRUITS, AND VEGETABLES...} *Karel* 133
XLIX.—NOTES (Exposition at Brussels in 1897—Guatemala Exposition of 1897—Model Village at the Swiss Exposition—Mozambique and South African Trade—Insurance Companies in Japan—Growth of Shanghai—Decline of American Kerosene Trade at Amoy—Wages in India—Angora Goats and the Mohair Trade—Wages in the Bradford Dyeing Trade—British Consular Officers and Trade—Bradford Chamber of Commerce and United States Consular Reports—American Leather Manufactures in England—Heating of Houses in Wurtemberg—Austrian Regulations as to Imported Cattle—New Vessels Between Palermo and Naples—Proposed Changes in Portuguese Tariff—Tariff Changes in British Guiana—Banana Shipments from Jamaica to England—Harbor Improvement at Hamilton, Bermuda—Metallic Sand at Martinique—Exports Declared for the United States—Exports from Cuba to the United States—Exports of Sugar from Cuba—Roentgen-Rays and Infernal Machines—Fruit Shipments from Palermo—Haitian-American Trade—Foreign Trade of Japan—Consular Reports Transmitted to Other Departments—Dangerous Antidiphtheritic Serum).. 135
L.—FOREIGN REPORTS AND PUBLICATIONS (Railway Enterprises in China—Chinese Revenue from Salt—French Commerce with the Transvaal—British Trade Returns—Jubilee Exhibition at Vienna—California Oranges in London).. 153

REPORTS BY COUNTRIES.

ANTIGUA: Page.
  Tariff changes in 117
AUSTRIA:
  Regulations as to imported cattle in 145
AUSTRIA-HUNGARY:
  Plum culture in Bosnia 88
BELGIUM:
  Exposition at Brussels in 1897 135
BERMUDA:
  Harbor improvement at Hamilton 147
BULGARIA:
  Trade with Germany 129
CANADA:
  Bean raising in Ontario 86
  Bounty of, and Nova Scotia steel 131
  Sault Ste. Marie and the "Soo" Canals 100
CHINA:
  Decline of American kerosene trade at Amoy 140
  Freight rates between the United States and China 20
  Growth of Shanghai 139
  Hankow tea trade 93
CUBA:
  Exports from, to United States 148
  Exports of sugar from 149
ENGLAND:
  American leather manufactures in 144
  Angora goats and the mohair trade 141
  Banana shipments from Jamaica to 147
  Bradford Chamber of Commerce and United States Consular Reports 144
  British consular officers and trade of 143
  Roentgen rays and infernal machines 149
  Wages in the Bradford dyeing trade 142
GERMANY:
  Berlin's industrial exhibition 109
  Berlin's trade and industrial fairs 110
  Bimetallism in Germany 41
  Cloak and clothing strike in 112
  Dangerous antidiphtheritic serum in 151
  Electric street railways in Dresden 97
  Government supervision of insurance companies in 130
  Heating of houses in Wurtemberg 144
  New railroad station in Dresden 96
  Potatoes as food for cattle and sheep in 90
  Proposed margarin law in 98
  Trade with Bulgaria 129

Page.

GUATEMALA:
  Exposition of 1897 136
GUIANA (BRITISH):
  Tariff changes in 147
HAITI:
  United States trade with 150
INDIA:
  Wages in 140
ITALY:
  Fruit shipments from Palermo 150
  Fruit trade of Sicily with the United States 81
  Lemons and lemon orchards in Messina 82
  New vessels between Palermo and Naples 146
  Transportation tariff for American goods from Genoa to Zurich 77, 79
JAPAN:
  American manufactures in 15
  Commerce of Hakodate 19
  Foreign trade of 150
  Insurance companies in 139
  Merchant marine of 17
  Progress and present condition of 12
  Trade of United States with 1
MARTINIQUE:
  Metallic sand at 148
MOROCCO:
  Currency of 45
MOZAMBIQUE:
  Trade of 137
NOVA SCOTIA:
  Steel of, and the Canadian bounty 131
PERSIA:
  The poppy and opium in 83
PERU:
  Salt monopoly in 55
  Sugar industry of 56
PORTUGAL:
  Proposed changes in tariff of 146
RUSSIA:
  A view of seal hunting in 132
  Currency reform in 33
  Gold and paper money in 34
  Production of salt in 95
  Regulations as to imports of plants, fruits, and vegetables 133
  United States gold coin in 39
SIAM:
  Foreign trade of 21
  Irrigation in 30
SIERRA LEONE:
  Railroad, boundary commission, trade, etc 124
  Work on the railway 125
SOUTH AFRICA:
  Trade of 137

SOUTH AMERICA: Page.
American vs. European interests in 91
Maritime trade of Pacific coast of 116
SPAIN:
Commerce of, in 1895 47
Fruits and nuts of 52
Malaga's trade with United States 49
Trade of Almeria 52
SWITZERLAND:
Model village at the exposition in 136
Transportation tariff for American goods from Genoa to Zurich 77, 79
UNITED STATES:
Exports declared for 148
Exports from Cuba to 148
Freight rates between China and United States 20
Fruit trade of Sicily with 81
Gold coin in Russia 39
Trade with Haiti 150
Trade with Japan 1
VENEZUELA:
Immigration contract with 114
WALES (SOUTH):
Tin-plate trade of 67, 72
WURTEMBERG:
Heating of houses in 144

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	do	Dollar	1.00	
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands§	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34.5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93.3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.45,7	$0.46,4
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
China*	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tien-Tsin tael.	....	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador	do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	....	....	....	....
Russia‡	Silver ruble	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela §	Silver bolivar	....	....	....	....	.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1,	April 1.
Bolivia	Silver boliviano	$0.45,5	$0.44,1	$0.48,6	.48,6	$0.49,1	$0.49,3
Central America	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
China*	Shanghai tael	.67.3	.65,2	.71,8	.71,8	.72,5	.72,9
	Haikwan tael	.74,9	.75,6	.80	.80,0	.80,8	.81,2
	Tien-Tsin tael.	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3
	Chefoo tael	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3
Colombia	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
Ecuador	do	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
India	Silver rupee	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4
Japan†	Silver yen	.49,1	.47,6	.52,4	.52,4	.52,9	.53,2
Mexico	Silver dollar	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6
Persia	Silver kran	....	....	.08,9	.09,0	.09	.09,1
Peru	Silver sol	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
Russia‡	Silver ruble	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5
Tripoli	Silver mahbub	.41,1	3.9,8	.43,8	.43,8	.44,3	.44,5

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* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4 2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264 17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3 5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet, unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅜ acres.
Marc	Bolivia	0.507 pound.
Maund	India	$82\frac{2}{7}$ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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UNITED STATES TRADE WITH JAPAN.

INTRODUCTORY REMARKS.

I have the honor to transmit herewith a translated report of an interview given to a representative of a Japanese newspaper by Mr. Koyama Kenzo, president of the Higher Commercial School of Tokyo, on the development of the foreign trade of Japan, together with comparative tables of the foreign trade of the Empire during the years 1894 and 1895, showing the relationship of the trade of the Japanese with the United States to their entire foreign trade.

Assuming that information relating to this important subject, in which the people of the United States are largely concerned, is of interest to the Department, I may be pardoned for submitting my views and respectfully advising as to ways and means to be considered by those controlling trade affairs in the United States, if they desire to avail themselves of the markets of Japan for the sale of American productions.

COMMERCIAL EDUCATION IN JAPAN.

The development of both internal and foreign trade is the all-absorbing problem with every class of the people of Japan. The system of education employed in the schools is admirably adapted to the turning out of well-equipped business men, so far as a practical commercial education can accomplish such an end.

Merchants, manufacturers, and, in fact, all engaged in trade actively or by investment of capital are making and will continue to make the very best use of the time intervening between the present and the coming into operation of the lately revised treaties, in borrowing, *ad libitum*, the products (in the shape of labor-saving appliances) of the inventive genius of the people of the United States, and of every other nation, for use in the workshops of the Empire, and will return the results in merchantable goods to the people of the nations from whom they are now borrowing at prices which will make competition an exceedingly difficult problem to solve.

JAPANESE MANUFACTURES.

The Japanese excel in productions of silk, jute, cotton, clay, iron, and straw in the shape of piece goods, wearing apparel, floor coverings, porcelain wares, curios of every description, mechanical and other toys, paper, and other goods in which they are the principal commodities used, and in retail products, among which may be mentioned surgical instruments, which, for delicacy of design and quality of temper, can scarcely be surpassed.

JAPANESE AGRICULTURAL AND MINERAL PRODUCTS.

The raw material necessary for the production, not only of the merchandise named, but of nearly all other goods produced by the most favored of the producing nations, are found in the territory of the Empire, the material wealth and producing power of which have been enhanced in no small measure by the annexation of Formosa. The mines are rich in coal, iron, and other minerals; the soil is fertile, and, judging from the extraordinary progress being made in agricultural pursuits, every available foot of it will, in the near future, be put into a high state of cultivation. In many of the subdivisions of Japan, two crops are produced annually.

WAGES.

The daily wage paid for mining and unskilled labor necessary for the production of what may be termed raw materials will average about 10 cents (United States currency) and that paid for skilled labor, at present, will average about 18 cents.

FOREIGN VS. JAPANESE PRODUCTS.

Until such time as the internal development of Japan is further advanced in every respect, her people will be obliged, if the extraordinary effort of the present in manufacturing is continued, to purchase largely the manufactured products of other nations, in addition to cotton, wool, jute, iron, and hides, and will, unquestionably, during the operation of the present treaties, or until such time as some arrangement is made for the protection of patentees, purchase samples of novel labor-saving appliances for reproduction and utilization. The necessity for such action on their part is well understood by the leaders of thought here, and must be admitted by all, when considered in connection with the fact that they have had but thirty years' experience in the advantages obtained from education in the schools of Europe and America. While it is universally admitted that they have made wonderful progress in the arts and sciences, it is nevertheless true that they have not progressed sufficiently in the science of mathematics to apply the advantages obtainable from that source to the production of novel labor-saving devices. In this connection, I quote the following from a British trade report of 1894:

> One of the many advantages enjoyed by the Japanese, materially aiding the rapid and economical development of their inventions, is that foreign patents are not protected. When

a machine, patented elsewhere, is purchased, it is not infrequently imitated, and an article equally good, for all practical purposes, is turned out at less than half the cost.

It is not improbable that when, under revised treaties, the patent laws become applicable to foreigners, there will be little or nothing to claim protection for.

JAPANESE BANKING AND FOREIGN TRADE.

The banking facilities of the Empire consist of 143 national and 700 private banking concerns. There are two very noticeable defects connected with the Japanese banking business, to wit, heavy interest charges and an absence of any permanently established credit system. Under present conditions, these defects are not fatal, as nearly all the trade of Japan is done on a cash basis, credit in buying or selling being the exception. It is well to remember that at present the bulk of the foreign trade is done indirectly or through foreign houses having branches located in the open ports, who do not, to any appreciable extent, use the banking facilities of the Empire. When the time arrives that the merchants, manufacturers, and others of Japan trade direct, the present system will have to be remodeled.

JAPANESE PRODUCING CAPABILITY.

With her natural advantages, the method of education employed in the schools and the universality of effort in the direction of increasing trade internally and directly with the people of other nations, it would seem that the Empire of Japan is destined to become the great producing nation of the Orient. But before such a conclusion can be accepted, consideration should be given to certain drawbacks, among which may be mentioned the inability to produce quality and quantity in accordance with contract stipulations. This defect is subjecting her tradespeople to very serious criticisms on the part of those with whom they trade; and, by many, it is alleged to be due to a lack of commercial probity. I am not of that opinion, but rather ascribe it to a lack of training in the art of producing stated quantities in stipulated periods. In short, they can produce, under present conditions, quality, but not quantity. This opinion seems to be in keeping with the line of thought of the president of the Higher Commercial School in his comparison of the horsepower capacity of the Empire with that of England, and his advice that "Japan should therefore not remain satisfied with its cheap labor, but endeavor to improve various industrial branches by the practical application of chemistry, etc." It coincides also with the views of a committee appointed by the Tokyo Chamber of Commerce at the suggestion of the imperial Department of Agriculture and Commerce. A translated copy of the conclusions of said committee is transmitted herewith. The advice of the president of the Higher Commercial School and that of the committee obtains, and improved mechanical appliances are being introduced to overcome the above-described defect and as a protection against that which must inevitably follow the increasing demand for all grades of labor, namely, a conflict between capital and labor. All the signs of the present indicate that the demands of labor for increased reward are in greater proportion than is warranted. To what extent this condition may affect trade in the future, is problematical, but, in this connection, it can be said that the Japanese are exceedingly partial to guilds, trade organizations, and secret societies generally.

EFFECTS OF OPENING UP CHINA TO TRADE.

The opening up of China to the investment of capital and trade operations, accomplished by the Japanese themselves, while it deserves the commendation of civilization, will eventually prove another and, perhaps, the most serious drawback to the future trade of Japan. The mines, soil, and animal resources of China are as rich and productive as are those of Japan. The Chinese are noted for their business integrity and are rarely charged with failure to live up to their trade agreements. Labor of every description is cheaper, and, in nearly every other respect, equal to that of Japan, while it is in so much greater abundance that it will not be in position, for many years to come, to continually and successfully demand increased reward. In addition to this, the investment of foreign capital is not, under present conditions, repulsed, either by the Government or the people of that country. The immediate result of this is that vast sums are being invested by the capitalists of America, Europe, and Japan in the building up of industries and the introduction of the most approved mechanism.

The consensus of opinion of the representatives of capital and trade located in the East seems to be that the opening up of China to the markets of the world and the investment of capital for mercantile and every other purpose will be advantageous for the following reasons, to wit: That the demand, compared with that of Japan, must of necessity be in the same ratio as that of upwards of 400,000,000 is to less than 50,000,000 inhabitants, and that preference in all matters connected with investments of capital and trade pursuits will, until the operation of the revised treaties with Japan are tested and precedents established as to the rights of individuals and property, be in favor of China.

IMPORTS AND EXPORTS OF JAPAN.

Following is a comparative table of the foreign trade of Japan for the years 1894 and 1895, together with returns showing the relationship of the trade of the Japanese with the people of the United States to their total foreign trade:

Description.	1894.	1895.	Increase.	Decrease.
	*Yen.**	*Yen.**	*Yen.**	*Yen.**
Exports from Japan	111,297,689.53	136,112,117.92	24,814,428.39	
Imports into Japan	117,481,955.46	129,260,578.28	11,778,622.82	
Exports from Japan to United States	44,523,557.06	54,028,930.20	9,505,373.14	
Imports into Japan from United States	10,982,558.44	9,276,360.35		1,706,198.09

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*The average value of the Japanese yen for the year 1894 was 49.6 cents, and for the year 1895, 51.3 cents (United States currency).

A study of the above figures will give the following results:

(1) The export trade of Japan for the year 1895 was 24,814,428.39 yen greater than that of 1894, and the people of the United States purchased about 40 per cent of all the merchandise sold for export in each of the years given, the increase in their purchases being in proportion to the increase in the trade between the two years.

(2) While the import trade of Japan for 1895 was 11,778,622.82 yen greater than that of 1894, the amount of the sales of American merchandise for import into Japan shows a decrease of 1,706,198.09 yen in 1895 as compared with the sales of 1894. The relationship of the amount sold by the people of the United States for import into Japan during the year 1894 to the whole amount of the imports of the Empire for that year was about 9 per cent; that of 1895, about 7 per cent, and of this, nearly 45 per cent was for kerosene oil.

The character, quantity, and declared values of the principal imports and exports of the foreign trade of Japan for the years 1894 and 1895 are set forth in the tables attached hereto.

It will be observed that imports of the year 1895 amounting to the vast sum of 26,993,650.58 yen are classified under the caption "all other articles, unenumerated;" this miscellaneous classification embodies all sorts of novelties new to Japan, together with machinery, toys, and sample lots generally.

HOW TO INCREASE AMERICAN TRADE IN JAPAN.

The only conclusion that can be arrived at, after a careful amplification of the figures and facts given, as to the import and export trade of this Empire, is that the Japanese are devoid of sentiment in matters of trade, to the extent, at least, of selling their productions in the markets that pay the best prices for them and purchasing such commodities as they require in the markets that sell them the cheapest, so far as they are able to determine that fact from the tenders made for their trade by the agents of the several competing markets. It is also evident that, so far as the people of the United States are concerned, they do not appear to be competitors for the trade of Japan to any appreciable extent, but are purchasers and consumers of nearly one-half of all Japan produces for foreign markets. As the people of Japan become more proficient in the mechanical arts, their trade with the American people must increase, as the United States is the nearest available market for the sale of such merchandise as advancement in such arts will lead them to produce. Being perfectly cognizant of these facts, they are using every available means to enable them to trade directly, and, to this end, are educating their students in the English language, and sending those qualified to transact business, not through middlemen, but directly with our merchants and manufacturers. The markets of China, Australia, and India being used for the sale of their indifferent manufactures and surplusage, their export trade with European nations will not materially increase.

In my efforts to ascertain the reasons why the people of the United States do not receive more of the trade favors of the Japanese, but one seemingly stereotyped reply has been received from the foreign merchants resident in the open ports of the Empire and from native buyers. That reply is that the quality of American products is excellent, but the producers do not seem to consider the trade of Japan sufficiently important to remodel their prices and freight rates to the extent necessary to meet the competition of the producers of other nations.

In simple justice to those from whom this reply has been received, I desire to say that they do not seek to injure American interests in voicing it. Nevertheless, its influence on the minds of Japanese purchasers can only be harmful, especially when considered in connection with the fact that their all-absorbing aim seems to be to trade directly in the near future.

If the people of the United States interested in trade matters could be induced to give a fractional part of the time, thought, and expense which they necessarily devote to the question of overproduction and its effects on the stability of home prices to Japan, as a suitable market for their surplusage, and if, further, they could be induced to reconcile themselves to selling such surplusage even at cost in order to overcome competition, they would not only ease the home market, but would be enabled to reduce the cost of their whole production, and, in the end, make their trade with this people a remunerative one. These considerations gather additional weight from the fact that our manufacturers are obliged, in order to keep their plants occupied even a portion of each year, to glut the home markets to the extent of imperiling their capital through inability, under the conditions ruling, to maintain paying prices for their productions. In this Empire, they will find nearly 50,000,000 of bright, active, intelligent, and thrifty people, who, the figures above given show, have purchased in the markets of the world during the year 1895 to the extent of 129,260,578 yen, approximately $62,000,000 (United States currency). These people, moreover, are ready and more than willing to transfer the larger portion of their trade, now controlled by the manufacturers and merchants of Great Britain, France, and Germany, to those of the United States, if they will simply cater for it to the extent of meeting competition as to prices and character of merchandise required; not, however, through any sentiment, but simply because the purchasing market would be so much nearer to them that the question of time of delivery would become an important factor.

The present method of soliciting trade by sending through the mail or otherwise, directly or through the consular service, illustrated catalogues, with prices and terms, to foreign merchants resident here and to prospective Japanese purchasers should be abandoned, for, instead of accomplishing the desired end, it is often made use of to the detriment of the sender. The only practicable method to introduce and sell American products in Japan will be found to be through the medium of competent commercial men, in precisely the same manner as the major portion of the trade of the

United States is now being conducted. Such representatives should have a full line of samples of the merchandise proposed to be furnished and be thoroughly posted in the following particulars, viz, methods of shipment and freight rates, insurance charges, and cost of packing and casing. The representative should be sufficiently conversant with the manufacture of the merchandise as to be able to figure out the cost of such changes in shape, style, etc., as may be found necessary in order to suit the whims and preferences of the buyer. He must be conversant with the currency of Japan, so as to be in a position to convert prices and charges incident to the laying down of the merchandise in the ports of the Empire into said currency. A knowledge of the language of Japan, while it would be valuable, is not indispensable. Nearly all the business of the foreign merchants resident here is conducted through interpreters, known as business "bantos," who are obtainable in all the open ports.

The consular service of the United States in Japan would be invaluable to the representatives of American industries seeking trade in the above described and only practical manner, while under present conditions, outside of reports rendered the Department of State pursuant to instructions or otherwise, it is powerless to materially assist in the accomplishment of the desired end—an end which appeals alike to the ability and patriotism of its representatives, namely, that trade between the two nations should be more in favor of the United States.

JAS. F. CONNELLY,
Consul.

OSAKA AND HIOGO, *February 7, 1896.*

[Inclosure 1 in Consul Connelly's report.]

JAPAN AND THE WORLD'S TRADE.

Mr. Koyama Kenzo, president of the Higher Commercial School, Tokyo, was interviewed a few days ago by a representative of the Jitsugyo Shimbun. Our Tokyo correspondent translates Mr. Koyama's remarks as follows:

The progress of Japan's commerce depends upon the development of her foreign trade. However much the purchasing power of the Japanese nation may be increased, it will be of little importance by itself alone. After all, the encouragement of foreign trade is absolutely necessary if the country's trade is to be extended.

Before considering the means for the development of the foreign trade, let me refer to some points in connection with the present condition of this country's industry.

The export of silk goods, which only dates from the twentieth year of Meiji (1887), has now reached about 15,000,000 yen, exclusive of the raw-silk trade, the annual amount of which is between 30,000,000 and 40,000,000 yen. Both lines of business promise well in the future. This is due to the fact that the country's position is most suitable for sericulture. The improvement of this industry is the best means to enrich the majority of the farmers in the Empire. There exists, indeed, a certain hope that we may be able to surpass Italy and China, if unremitting care be paid to the choice of cocoons, the cultivation of mulberry plants, the manufacture of raw silks, etc.

It is more profitable to export silks after being manufactured into piece goods than as raw material, particularly so when the country has the following remarkable advantages:

(1) A rich coal supply—coal being called the "bread of industry."

(2) The very low rate of the cost of labor.

(3) The favorable position occupied by the country for trade with China, Australia, etc.

(4) The excellence of the country's monetary and other various financial institutions.

(5) The artistic power of the Japanese. The fine arts of Japan now enjoy world-wide reputation for superiority.

While we have these advantages, we are not without some defects. In the first place, we must mention imperfect methods of education and the consequent general ignorance of physics and chemistry. "The interests of British commerce have lately been assailed by Germany and other countries," says the report of the union meeting of British chambers of commerce held in 1888, "because of the imperfect way in which British people study foreign circumstances and questions of science."

Though the commerce of Japan can not be compared with that of England, the defects of the two countries are found to coincide.

The second defect lies in the insufficiency of mechanical appliances. While England uses altogether 2,500,000 (?) horsepower, Japan's power does not exceed 20,000, or less than 1 per cent of the former. As 1 horsepower is estimated to correspond to twelve men's strength, England has a capacity of 30,000,000, who are incessantly employed day and night. Thus the cost of labor must be actually very cheap in England, although the wages of the workers are high. I once visited the canal work at Kioto. Its plan is to produce electricity by means of water mills and then to distribute it to various industrial establishments to drive machinery. The cost of 1 horsepower thus supplied is, I am told, 50 yen per year. If 1 horsepower stands for a dozen men, it makes the wages for one person a little over 4 yen for one year or 34 sen for a month, that is to say, over 1 sen per day. Thus, it is impossible for human power to compete with it. Since cotton spinning by machinery was commenced, old women in the country have been deprived of their occupation. This is a simple proof of machinery taking the place of human power. Japan should, therefore, not remain satisfied with her cheap labor, but endeavor to improve various industrial branches by a practical application of chemistry, etc.

The third defect is the high rate of interest—so high that no parallel can be found in the West.

Notwithstanding shortcomings like these, however, the business world of the country has shown every sign of progress for the past ten years and more. To maintain and further this desirable result, commercial and industrial education must be considered the first necessity.

The present is not the time to remain content with the domestic trade only. The time is ripe for us to engage in foreign commerce.

Besides silk goods, take, for instance, matches, which are sold at a trifling cost—only 2 or 3 rin per box. They are largely exported to Singapore and Australia, and even to America at present, the annual amount of the trade being between 4,000,000 and 5,000,000 yen, and there are good prospects of swelling this to 10,000,000 yen in the future. Our silk goods exported to the United States are one-tenth of their total import. Notwithstanding that our goods are subject to a heavy protective duty of 50 per cent, they stand the competition of the silk manufacturers of Paterson and command an extensive sale in that continent. Judging from this, it seems it is not impossible to supplant the French manufacturers, provided proper measures are taken to encourage the trade and goods of selected qualities are exported at cheaper prices. First of all, as a means of gaining the final victory in the world's trade, it is essential to build a solid foundation by cultivating a general knowledge of arts and industries and by bringing up able business men, which ends can be accomplished by a diffusion of commercial and industrial education.

[Inclosure 2 in Consul Connelly's report.]

JAPANESE MERCHANTS AND DIRECT FOREIGN TRADE.

At the suggestion of the Department of Agriculture and Commerce, the Tokyo Chamber of Commerce has been holding an investigation into the prospects of direct export and import by Japanese merchants. The result of an examination by the committee appointed has now been reported to the Chamber of Commerce, and will be forthwith communicated to the Department. The causes that impede the development of direct foreign trade are enumerated as follows: (1) Imperfection of the credit system; (2) the high rates of interest in Japan, as compared with those ruling in the West; (3) the ignorance of the Japanese merchants engaged in direct trade as to the condition of commerce abroad; (4) want of uniformity in the quality of Japanese manufactures and frequent deterioration of manufacturing processes.

Recommendations were drawn up as to the means of removing these impediments. The chamber urges that the consulates abroad should be increased and more care exercised in the appointment of consuls; that banking facilities should be increased; Japanese merchants should improve their knowledge of the conditions of trade abroad; the customs accommodation should be increased; foreign purchases by the Government should be made through Japanese merchants, and the official procedure should be simplified; the extension of the mercantile marine; trade exhibitions; the adoption of measures to prevent bad work being put on the market.

[Inclosure 3 in Consul Connelly's report.]

Principal exports of Japan (calendar years).

Articles.	1895.		1894.	
	Quantity.	Declared value.	Quantity.	Declared value.
		*Yen.**		*Yen.**
Antimony ... catties	2,413,185	289,935.30	2,682,813	254,261.46
Bamboo	...	283,138.09	...	188,963.60
Ware	...	417,093.90	...	298,245.77
Bronze ware	...	229,290.90	...	183,687.89
Camphor ... catties	2,238,386	1,526,831.94	2,071,378	1,023,956.35
Carpets (hemp or cotton) ... number	685,536	1,635,902.08	546,091	1,134,072.71
Coal and dust coal ... tons	1,844,815	7,604,788.22	1,701,130	6,578,460.89
Cocoons (pierced and waste) ... catties	176,944	178,571.65	268,381	227,572.59
Copper:				
Ingot ... do	6,558,406	1,340,583.72	9,645,269	1,799,435.08
Slab ... do	8,431,204	1,693,376.92	6,074,919	1,155,862.96
Sheet and other manufactured ... do	9,197,160	2,123,706.80	9,683,904	1,945,456.36
Copper ware	...	101,341.66	...	134,970.19
Cotton:				
Raw ... catties	774,547	171,926.80	540,151	119,153.67
Piece goods—				
Chijimi ... pieces	469,595	585,908.66	1,088,389	1,067,572.95
Flannel ... do	292,415	400,519.77	158,989	221,917.58
Tenuguiji and other ... do	1,646,887	1,329,511.58	705,339	571,712.44
Undershirts and drawers ... dozen	76,657	96,992.52	100,586	133,547.44
Yarn ... catties	3,532,893	1,034,478.70	3,538,868	955,529.95
Cuttlefish ... do	6,401,207	996,029.95	9,483,425	1,162,453.03
Fans ... number	11,573,861	399,519.22	9,049,034	319,416.24
Fish and rape-seed oil ... catties	12,167,829	572,060.16	16,804,319	684,538.82
Floss silk and waste ... do	56,996	14,307.01	169,493	99,786.97

*Silver.

Principal exports of Japan (*calendar years*)—Continued.

Articles.	1895.		1894.	
	Quantity.	Declared value.	Quantity.	Declared value.
		*Yen.**		*Yen.**
Flour...catties...	4,854.539	191,848.35	3,309,426	141,454.66
Furs...number...	242,319	262,901.82	175,937	111,392.90
Furniture...	...	103,480.81	...	102,212.08
Ginseng...catties...	299,636	373,648.08	326,172	499,798.07
Glassware...	...	346,476.90	...	258,956.81
Iriko (Bèche de mer)...catties...	1,021,821	316,908.71	929,107	294,323.84
Ivory ware...	...	106,598.79	...	98,285.90
Kanten (colle vegetale)...catties...	1,118,773	449,271.25	1,298,422	495,625.39
Lacquered ware...	...	1,083,212.46	...	797,539.30
Manganese...catties...	27,448,142	196,598.59	29,341,892	198,810.37
Matches...gross...	16,914,027	4,672,811.55	13,843,022	3,795,634.90
Mats for floors...	...	3,461,369.88	...	1,965,493.11
Menthol crystal...catties...	30,836	197,411.27	21,135	143,107.25
Mushroom (Shiitake)...do...	1,359,237	522,944.69	1,339,843	573,511.29
Paper ware...	...	506,932.98	...	303,795.42
Peppermint oil...catties...	31,900	112,869.92	57,809	242,774.25
Porcelain and earthen ware...	...	1,955,060.13	...	1,484,853.84
Rags...catties...	2,484,340	57,029.67	12,673,533	284,919.20
Rice...piculs...	1,798,983	7,209,755.52	1,425,780	5,595,398.49
Sake...sho...	1,978,705	415,333.95	958,872	186,101.21
Salt...catties...	24,687,032	97,463.55	16,100,052	68,255.97
Screens...number...	154,909	366,009.99	134,209	282,349.38
Seaweeds...catties...	39,033,128	514,275.22	35,851,245	467,235.32
Cut...do...	5,796,883	116,016.14	5,999,134	139,793.35
Shark's fins...do...	309,549	95,880.45	297,689	102,215.39
Shellfish:				
Awabi...do...	1,060,898	396,800.26	1,165,131	445,570.93
Kainohashira...do...	156,913	39,833.44	541,710	127,930.12
Shrimps...do...	1,535,159	222,821.89	1,283,965	171,780.74
Silk:				
Raw...do...	5,810,046	47,866,256.93	5,484,059	39,353,155.62
Noshi...do...	1,596,777	1,347,255.92	1,701,211	1,632,211.45
Waste...do...	2,225,413	1,515,463.76	2,153,120	1,576,381 47
Handkerchiefs...dozen...	1,855,574	5,339,955.27	1,435,674	3,628,128.71
Piece goods—				
Habutae...pieces...	525,961	8,354,489.88	434,767	7,254,478.37
Chirimen and other...do...	155,886	1,643,356.45	136,007	1,175,522.24
Straw plaits...bundles...	3,478,639	1,387,643.46	2,062,697	743,399 10
Sulphur...catties...	26,445,913	296,136.20	21,103,646	244,542.26
Tea:				
Green—				
Pan fire...do...	26,266,785	7,226,903.27	25,720,434	6,430,902.90
Basket fire...do...	4,552,166	1,225,080.74	4,615,370	1,138,286.58
Dust...do...	6,415,472	308,017.04	5,340,560	248,014.90
All other...do...	1,592,238	119,240.49	1,867,223	113,082.54
Timber, wood, and planks...	...	261,532.00	...	275,822.01
Tobacco, leaf...catties...	2,039,999	216,613.35	1,992,844	259,675.34
Umbrellas, European...number...	1,630,715	735,207.13	1,960,661	746,067.75
Vegetable wax...catties...	2,792,330	334,846.60	4,401,195	562,134.64
Wood ware...	...	398,349.58	...	280,753.63
All other articles, unenumerated...	...	8,997,299.94	...	6,868,921.54
Total...	...	134,991,029.82	...	112,171,175.47
Reexported articles...	...	1,121,148.10	...	1,074,910.68
Total exports...	...	136,112,177.92	...	113,246,086.15

* Silver.

Principal imports of Japan (calendar years).

Articles.	1895.		1894.	
	Quantity.	Declared value.	Quantity.	Declared value.
		*Yen.**		*Yen.**
Alcohol..........catties...	4,894,718	440,904.58	1,943,373	174,185.82
Aniline dyes..........do......	803,906	682,137.60	650,598	543,494.38
Beans, pease, and pulse..........do......	121,789,578	2,554,763.58	137,752,255	2,977,794.64
Caustic soda..........do......	5,855,175	234,000.46	4,622,642	205,466.84
Chlorate of potash..........do......	1,734,734	419,053.60	2,492,548	840,640.38
Cigarettes....................	....	303,871.10	....	232,343.66
Coal..........tons...	68,931	853,079.79	37,247	472,757.09
Cotton:				
Raw..........catties...	143,468,259	24,304,814.23	108,415,609	19,103,922.98
On the seeds..........do......	11,684,469	517,283.06	11,515,576	506,837.54
Chintzes or printed cotton........yards...	3,785,967	383,364.94	5,155,964	521,697.03
Drills..........do......	3,693,018	519,972.03	1,381,417	172,598.89
Handkerchiefs..........dozens...	335,633	204,683.52	328,065	199,846.51
Satins, broad or not..........yards...	4,628,358	794,136.27	7,831,153	1,266,150.63
Velvets..........do......	2,209,984	486,097.11	2,897,581	700,150.63
Shirtings—				
Gray..........do......	46,082,003	3,071,495.92	41,439,972	2,935,033.52
Twilled..........do......	565,290	57,469.13	1,753,734	171,694.13
White..........do......	5,394,799	505,719.66	3,658,217	337,607.09
T cloths..........do......	2,945,918	241,462.77	2,626,361	212,318.16
Turkey reds..........do......	5,261,157	418,790.78	2,302,398	225,285.30
All other cotton piece goods........do......	3,535,028	416,575.76	3,384,697	415,720.38
Yarn..........catties...	14,591,083	7,082,975.36	15,942,797	7,977,365.73
Dried sardine, for manure..........do......	432,342	8,560.88	10,412,625	193,636.38
Flax, hemp, and jute..........do......	8,891,642	645,840.62	7,069,472	537,924.96
Flour of all kinds..........do......	10,576,145	413,427.33	16,051,617	641,929.67
Hides (buffalo and cow)..........do......	3,915,214	695,984.98	2,355,831	394,892.19
Indigo (dry)..........do......	444,128	581,369.59	248,938	329,861.41
Iron:				
Pig..........do......	58,859,698	673,795.70	61,081,416	743,552.83
Bar and rod (round, square, flat, etc.)..........catties...	73,639,244	2,085,684.09	46,839,223	1,339,033.96
Plate and sheet (including diagonal and galvanized)..........catties...	29,305,915	1,038,793.59	24,634,101	889,184.87
Nails and galvanized iron nails...do......	24,286,896	1,279,407.00	25,325,004	1,333,149.53
Pipes and tubes....................	....	604,753,36	....	484,086.40
Wire and telegraph wire.........catties...	6,612,287	348,146.86	4,715,612	227,026.58
Band, hoop, nail rod, roofing, and other manufactured..........catties...	4,247,835	168,904.97	4.263,187	177,146.88
Kerosene oil..........gallons...	44,152,414	4,303,928.94	55,643,719	5,135,332.26
Lead and sheet lead..........catties...	6,036,031	358,436.26	4,312,732	267,149.63
Leather, sole and other..........do......	3,120,488	1,590,596.20	1,553,182	880,622.89
Locomotive engines, railway carriages, and parts of....................	....	1,806,911.40	....	1,735,373.02
Logwood, extract of..........catties...	967,670	218,838.86	1,426,555	303,850.86
Machinery....................	....	4,090,526.26	....	4,201,694.20
Materials for railways....................	....	1,253,343.22	....	881,805.36
Oil cakes..........catties...	57,189,965	946,027.55	53,291,952	822,195.36
Paraffin wax..........do......	2,557,704	266,340.42	2,729,793	263,015.06
Phosphorus, amorphous..........do......	160,447	260,822.78	118,534	178,231.88
Printing paper..........do......	2,853,946	307,699.28	2,533,080	257,857.36
Rail..........do......	43,304,127	925,531.38	57,772,865	1,209,205.40
Rice..........piculs...	1,685,352	4,357,096.29	3,304,628	8,413,148.20
Salicylic acid..........catties...	151,985	285,585.08	62,793	193,677.32
Satins (silk and cotton mixture)......yards...	81,587	37,308.70	344,099	235,505.06
Steam boilers, engines, and parts of..........	....	431,925.36	....	215,155.04

*Silver.

Principal imports of Japan (calendar years)—Continued.

Articles.	1895.		1894.	
	Quantity.	Declared value.	Quantity.	Declared value.
		*Yen.**		*Yen.**
Steel..........catties...	6,919,739	503,571.29	4,985,909	362,365.84
Sugar:				
Brown..........do......	111,877,023	4,074,241.39	113,806,711	4,551,848.27
White..........do......	129,548,753	7,645,864.94	109,343,475	8,689,748.05
Tin..........do......	537,631	191,936.08	468,123	179,068.38
Plates..........cases...	48,564	251,131.43	53,559	296,284.90
Watches..........number...	188,722	923,022.58	78,272	404,646.22
Window glass..........cases...	110,364	309,801.70	78,834	246,032.62
Wine, in bottles and casks..........	....	314,828.96	....	222,770.96
Wool..........catties...	2,829,556	1,136,951.00	1,485,526	567,197.22
Blankets..........do......	1,911,955	1,569,425.35	755,573	572,808.14
Flannels..........yards...	2,715,037	961,331.80	856,269	308,833.79
Italian cloths..........do......	3,188,882	921,741.25	6,481,638	1,759,795.65
Mousseline de laine..........do......	20,333,183	3,633,467.96	19,042,850	3,150,823.17
Woolen cloths..........do......	2,015,344	2,951,041.93	507,356	641,270.06
In part wool..........do......	312,014	169,265.74	317,381	175,559.01
All other woolen piece goods and cotton mixtures..........yards...	1,184,400	467,273.17	634,224	233,120.26
Yarn..........catties...	889,163	951,035.29	490,475	563,501.38
Zinc and sheet zinc..........do......	6,392,504	635,477.22	4,498,717	493,824.06
All other articles, unenumerated..........	....	26,993,650.58	....	21,273,707.56
Total..........	....	129,083,297.32	....	117,371,361.43
Reimported articles..........	....	177,280.96	....	110,594.03
Total imports..........	....	129,260,578.28	....	117,481,955.46

*Silver.

PROGRESS AND PRESENT CONDITION OF JAPAN.

I have been so impressed with the progress made in Japan within the last few years and the present condition of the country, so recently emerged from the war with China, that I have thought that an observation or two thereon might not be without some interest to the Department of State.

An oriental people devoted to progress; a nation that, before our eyes, has cast aside its ancient social organization and donned an entirely new one, achieving this incredible feat not merely without disaster, but with triumphant success—such is the spectacle presented by Japan, assuredly the most interesting country in the world to-day.

I have enjoyed the privilege of assisting at this transformation scene, unique in history; and when the past summer brought me an opportunity of revisiting this favored land after three years' absence, it was to renew my admiration for the splendid and permanent gains in the field of industrial civilization which our time is bringing forth, no less than to enjoy the surpassing beauty of the picturesque scenery and the stately monuments of a feudal past.

Up to the date of the recent war with China, it seemed impossible to persuade Western people to take the new Japan seriously. It needed the crushing defeat of the Chinese Empire to open peoples' eyes. To be sure, the events which electrified the rest of the world excited no surprise whatever in Japan, where the issue was foreseen with absolute clearness before a shot was fired. Foreigners, in general, expected that such an unbroken career of victory would turn all heads and breed an insufferable arrogance of demeanor. Nothing of the kind. The Japanese knew China too well to take any especial credit for her overthrow. Without undue elation or conquering airs, their bearing is modest, dignified, and self-respecting. They know the precise value of what they have accomplished. They know, too, that far more serious trials are probably in store for their country, and are earnestly and quietly making ready for them.

Before the war broke out, Japan possessed a powerful fleet, admirably organized and served. She has now, in addition, the thirteen cruisers taken from China, which have been refitted and modernized; and the Government shipbuilding establishments are busy making formidable additions to their navy. Arsenals, dockyards, and machine shops are fitted with the very latest improvements in machinery; and nowhere in Europe or America, can there be found workmen better trained, more skillful, or more thoroughly efficient. Here, indeed, is a side of Japan much neglected by the traveling sightseers. A visit to the dockyards of Yokosaka is, in its way, as interesting and instructive as a ramble through the temples and stately groves of Nikko or the ancient palaces of Kioto.

The army of Japan, in the opinion of men versed in military affairs, is one of the best organized armies in the world. The rank and file are the descendants of the famous old Samurai—the sturdy men at arms who followed the fortunes of the early "daimios"—hereditary soldiers, imbued with all their warlike traditions. They are young, active, strong, thoroughly drilled, disciplined, and subordinate; at one with their Government, and with all a soldier's love of, and pride in, his profession. In the late war, their indomitable pluck and cheerful endurance of the hardships of a campaign waged during a winter of unusual severity and through a mountainous country without roads and covered with ice and snow, to which they were all unaccustomed, they proved themselves worthy of their ancestors and inferior to none. The commander in chief of this army in the field, Marshal Yamagata, developed a genius for war which places him in the front rank of the soldiers of any country. While the enemy was not formidable and two great battles were fought, his plans in every movement were skillfully prepared and accurately executed, always to the letter, and the very day. There was never a hitch or a mistake, and every department of the army—engineer, quartermaster, commissary, medical, etc.—was well set up, promptly on hand at the moment required, and moving with the celerity and precision of the battle line. The whole thing, from the beginning to the end, exhibited a completeness of detail and thoroughness of organization rarely to be found in any army in any war.

The large and well-equipped mercantile marine for coast and other services presents a singular contrast with the days of jealous isolation, when nothing larger than a fishing smack was allowed to be launched; and it is typical of much besides the extensive and growing commerce of recent years.

Since the conclusion of the war, renewed activity is noticeable in every branch of industry. The huge cotton mills that have sprung up in Osaka and other towns are among the most noteworthy of new enterprises set on foot from day to day. Every town and city, and the country generally, has an air of prosperity. Gas and electric light are more and more used, and, in the larger centers of population, are all but universal. In several towns, the electric-light apparatus is worked by water power—a source of energy practically unlimited, and, hitherto, scarcely utilized.

The railway system is extensive and admirably managed, and every corner of the Empire is now provided with good macadamized roads, an inestimable boon, which particularly strikes the visitor from China, where there are no roads, with admiration and surprise. As a natural consequence of these and other favoring influences, agriculture has extended and advanced. The soil, of inexhaustible richness, with an ever-constant supply of water, yields plenteous crops. A remarkable degree of progress is manifest in the cultivation and improvement of fruits. Apples, pears, peaches, plums, and grapes, for example, were scarce and of the most indifferent quality a few years ago; now, they are abundant and excellent. Foreign vegetables and melons, introduced, as were the fruits, mostly from America, are plentiful and of the finest quality.

It is impossible for me to conclude these brief notes without some mention of the numberless schools, public and private, in Japan. The Government is thoroughly alive to the national importance of education. A noteworthy and characteristic feature of the school system is the military drill universally enforced. The youngsters are made to feel, from the beginning, that they have a country to defend, and, as might be expected, they take to their exercises enthusiastically. It is an odd and stirring sight, on a gala day, and, in fact, on almost every other day, to see the school children in every town marching in companies and battalions, in appropriate uniform, and perfectly equipped for the field, with bands playing, flags fluttering, a mimic gun or two, representing a section of flying artillery, an ambulance corps, with stretchers, and all the rest of it. What gives the greatest pleasure to an observer is the genuine fervor of nationalism displayed. Such sons of such fathers are the greatest treasure a country can ask for, and whatever good or evil fortune may be in store for Japan, one thing is certain—a people possessed by such a spirit will always hold their heads high among the nations of the earth.

A. C. JONES,
Consul.

CHINKIANG, *December 10, 1895.*

AMERICAN MANUFACTURES IN JAPAN.

It is difficult for me to answer in a comprehensive and satisfactory manner the inquiry made in Department instruction in regard to "the prospects of competition by American manufacturers for contracts in the Japanese Empire."

Until recently, the difference between the cost of production in the United States and in England and other European countries has been so much in favor of the latter as to practically exclude the American manufacturer from competing in Japan. This difference appears to be rapidly disappearing, however, and there seems to be a fair prospect of some articles of American manufacture superseding the English or European make, particularly so in the case of tools and machinery of all kinds. This fact is owing, perhaps, more to the superior excellence of the American article in finish and in adaptability to its use than to its cheapness. American locomotives are growing in favor and are beginning to find a market. One disadvantage they have to encounter, however, is that the railway repair shops are furnished with tools and parts for the repair of English locomotives and the workmen employed are familiar with those engines only. The American manufacturer, being later in the field, is obliged not only to supply an equally cheap and serviceable article, but has also to overcome the disposition of the Japanese to continue the use of that which has already proved satisfactory and with which they are familiar.

In my opinion, one of the greatest advantages which the English and European manufacturers have over the American is the thoroughness of their methods of business. The former carefully study the wants and habits of the people in Japan and send out goods to meet those wants and habits, whereas our people seem disposed to educate the Japanese to our way of doing things, rather than to accept the conditions that exist and to supply what those conditions call for.

The greatest competitor that not only American, but European manufacturers as well, have to fear in Japan is the growth of home manufacturing industries here. With an almost unlimited supply of cheap, skilled labor, an abundance of coal, and magnificent water power throughout the country, there is every indication that, in the near future, the manufacturing interests of Japan will increase enormously. Inquiries are constantly being received from America and Europe in regard to the feasibility of starting manufactures of almost every kind with foreign capital and management. Existing treaties at present close Japan to foreign enterprise of this kind, but when the new treaties come into operation, there will be nothing to prevent American and European capitalists from availing themselves of the exceptional advantages that Japan will offer in almost every line of manufacture.

The Japanese naval department has about completed, I am told, plans and estimates for a very considerable increase of the Japanese navy, which will be submitted to the Diet next month. I understand that it is proposed to order from abroad four battle ships of 14,000 tons each and eight large cruisers, besides a number of smaller vessels. I have been informed that, if the Diet approves of the plans and estimates to be submitted, contracts for some of these vessels will be placed in the United States. For political and other reasons, the Government is well disposed toward American shipbuilders. Messrs. Cramp & Sons, of Philadelphia, and the Union Iron Works, of San Francisco, have had special agents here during the past summer to look after their interests in this matter, and I believe these gentlemen left Japan fairly well satisfied with the reception and encouragement they received from the authorities here. Nothing definite as to what those contracts will be and where they will be placed can be known until after the Diet has passed upon the naval estimates and plans. Both Messrs. Cramp & Sons and the Union Iron Works have assured the Japanese authorities that they are prepared to compete with English and European builders on equal terms.

Besides the vessels to be built abroad, I understand that the plans of the naval authorities include the construction of a number of war vessels in Japan. This will necessitate the placing of contracts for material, such as armor plate, guns, etc., in foreign countries, and doubtless some of the contracts will go to American manufacturers.

While the Government and people of Japan have, perhaps, a higher regard for the United States than for any other country, a great many of the most scientific and capable men in the Japanese navy have received their education and training in England; and, very naturally, they are imbued with an exalted idea of the excellence of the British navy and of British ships. The construction bureau in the naval department is composed almost entirely of men of this class, and while they speak in the highest terms of the work done in recent years by American shipbuilders, it is not difficult to perceive that they place more faith in the British shipbuilders than in those of any other nation. They say that while they have not been entirely satisfied with the vessels they have had constructed in France, they have been entirely satisfied with those built in England; and that while it is possible that the American builder may be equally as good as, if not better than, his English rival, contracts placed in the United States would be, so far as Japan is concerned, experimental. They have not, in short, the same implicit confidence in the ability of American builders that they have in the English. Other motives, however, will probably influence the Japanese Government in placing orders for war vessels than those which I have mentioned as likely to place all contracts in England if the subordinates in the naval department were to decide. The Government believes that the placing of orders in the United States would be gratifying to the American people, and they are desirous of testifying, in some tangible manner, their appreciation of the uniform friendliness of the United States toward Japan. Recognizing the United States as Japan's best customer, in the interests of trade they deem it good policy to buy where they sell the most. They may be influenced also by the fear of European complications preventing the delivery of ships when completed, and I have heard a prominent Japanese naval officer speak of the value that a connection with the Union Iron Works might prove to be to Japan, on account of proximity and certainty of communication, in the event of European troubles.

Some of the most important newspapers in Tokyo are outspoken in favor of placing orders for war vessels in the United States, and they seem to voice popular sentiment.

EDWIN DUN,
Minister.

TOKYO, *November 23, 1895.*

MERCHANT MARINE OF JAPAN.

A series of articles recently published in the Nichi Nichi Shimbun contains some interesting information about the growth and present condition of marine business in Japan.

Under the Tokugawa Government, private individuals, not being permitted to own any ships of foreign model, there was no scope for the rise of a mercantile marine. It was in 1869, two years after the downfall of the feudal régime, that the prohibition was first removed. At the end of 1870, the total number of ships of European form, both steam and sailing, was 46, with an aggregate registered tonnage of 17,952 tons; at the end of 1893, these figures had swelled to 1,429 and 155,172, respectively. Thus, during twenty-three years, the number of ships increased by 1,383 and the aggregate registered tonnage by 137,220 tons; in other words, an average yearly increase of 60 ships and 5,966 tons. As to steamships, their number at the end of 1870 was 35, with an aggregate registered tonnage of 15,498 tons, and by the end of 1893, the number had increased to 680 and 110,205 tons, respectively. The number of sailing vessels at the end of 1870 was 11, and their aggregate registered tonnage 2,454 tons, and these figures had become in December, 1893, 749 and 44,960 tons, respectively. The following table shows the statistics for the last ten years:

Year.	Steamships.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1885	228	55,538	358	46,537	586	102,095
1886	227	58,480	349	43,601	579	102,091
1887	252	68,012	342	43,457	594	111,469
1888	251	76,398	338	42,204	619	118,602
1889	311	84,082	329	41,571	640	125,653
1890	335	89,302	304	37,949	639	127,251
1891	353	91,145	278	36,083	631	127,228
1892	375	97,569	239	31,994	615	129,563
1893	400	104,909	218	31,538	618	136,447
1894	469	163,309	196	30,177	656	193,386

NOTE.—Ships are those of and above 100 tons; the tonnage of steamships is burthen and that of sailing vessels is register.

The writer then proceeds to consider Japan's position in the maritime catalogue of the world. According to trustworthy statistics, she stood below Turkey in June, 1894, as shown by the following table:

Country.	Number of ships.	Tonnage.
England	11,660	12,969,951
United States	3,314	2,171,459
Germany	1,765	1,784,725
Norway	3,137	1,669,087
France	1,178	1,089,540
Italy	1,276	771,759
Spain	760	547,358
Sweden	1,449	498,004
Russia	1,069	476,672
Holland	461	437,179
Greece	887	343,442
Denmark	815	333,231
Austria-Hungary	431	302,618
Turkey	1,069	266,352
Japan	369	196,365
Brazil	290	145,976
Belgium	88	118,827
Portugal	185	105,259
Chile	137	102,199
Argentine Republic	170	59,833
China	37	44,688
Hawaii	26	21,663
Uruguay	42	20,326
Egypt	29	19,264
Peru	41	12,483

In the latter half of the year 1894, the war with China led to a sudden and large increase in the number of Japanese vessels, especially steamers, so that by the end of that year, Japan had probably overtaken Turkey and reached a tonnage position close below Austria-Hungary.

The Japanese mercantile marine has, thus far, been principally occupied in the coasting trade. Navigation to foreign ports is still in its infancy. Not to speak of far-distant countries, even in the case of Chinese ports the number of Japanese ships visiting them is behind that of some European countries. In 1893, the number of Japanese vessels visiting Chinese ports was 623 and their aggregate tonnage 566,379 tons. In the matter of the carrying trade with China, England stands first, then Germany, and Japan comes third. The comparative shares of the carrying trade falling to the vessels of the principal countries in five years are shown in the following table:

Countries.	1889.	1890.	1891	1892.	1893.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
England	62	64	63	65	65
China	24	24	23	21	22
Germany	6	5	8	4	5
Japan	1.8	2	1	2	1.9

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

COMMERCE OF HAKODATE.

I have the honor to transmit, in accordance with the instruction of the Department of June 24, in short tabulated form, a statement of the general trade of the port of Hakodate, its trade with us, and vessels entering the port for the years 1893 and 1894. I have taken the data from the official customs reports and have added a column in which the equivalent values in our currency are given, the reductions being made, for the year 1893, on the basis of a valuation of the Japanese yen at 63 cents, and, for the year 1894, on a valuation of 50.8 cents, this being in each case the average of our Treasury official valuations for the quarters of the years named.

Trade of Hakodate in 1893.

Description.	Value.	
	Yen.	
Exports	639,626.77	$402,964.87
Imports	24,322.27	15,323.03
Customs duties	22,995.31	14,487.04
Exports to United States	204,683.50	128,950.06
Imports from United States	603.03	379.91

Steamships entered from abroad, 5, of 3,516 tons; sailing vessels entered from abroad, 57, of 11,010 tons. Of these sailing vessels, 28, of the burden of 4,398 tons, were American.

Trade of Hakodate in 1894.

Description.	Value.	
	Yen.	
Exports	669,472.64	$339,584.10
Imports	55,420.88	28,153.81
Customs duties	39,158.31	19,892.42
Exports to United States	187,486.20	95,243.00
Imports from United States	1,544.66	7,846.87

Steamships cleared, 11, of 13,036 tons; sailing vessels cleared, 84, of 25,351 tons. Of these sailing vessels, 30, of the burden of 6,786 tons, were American.

It will be noted, in comparing the two tables, that, in 1894, the general trade of the port fell below that of 1893, yet the imports from the United States increased. This is, in my opinion, due to the existence of a state of war and a cutting off of the large normal exports of fish and sea products to China.

The sulphur products of the island of Yezzo, of which Hakodate is the only open port, are the articles of commerce and export in which we are principally interested, and we have a like interest in the increasing importation of kerosene oil.

There is little doubt that the commercial importance of the port, under normal conditions, is increasing, but, for us, the greater interest lies in the increase in the number of American vessels entering the harbor. Most of these vessels are sealers, which enter no cargo that appears in trade returns, since they use the port only as a base of operations and source of supplies during the sealing season, but they all have crews shipped under our flag in a home port, who come under our jurisdiction, even if their members do not happen to be native-born or naturalized citizens.

N. W. McIVOR,
Consul-General.

KANAGAWA, *October 26, 1895.*

FREIGHT RATES BETWEEN CHINA AND THE UNITED STATES.

I have the honor to report that the reduction in the rates of freight by steamships from China to New York via the Suez Canal has caused an abandonment by the great lines of British steamships composing the "conference," or combination, of their old rates of 55s. (about $13.25) per ton of 40 cubic feet, and the adoption of a nominal rate of 30s. per ton, with actual agreements as low as 27s. 6d., whenever one of the independent steamships is announced to receive cargo for New York at 25s., which seems to be of monthly occurrence.

This reduction from about $13 (United States currency) to about $6 per ton from China to New York is thus inaugurated, and it is met by powerful and opulent steamship companies, combined under what is termed a "conference," embracing nearly all of the old-established lines of steamships in the trade between the Atlantic and Pacific via the Suez Canal.

From the rates of freight for cargo by the "conference" steamers, a rebate of 10 per cent is made to their patrons whose entire patronage is given to the lines of ships in that combination, which reduces 30s. to 27s. and 27s. 6d. to 24s. 9d. (about $6).

If a similar rate of freight could be obtained for and with cargoes from the Atlantic ports of the United States to eastern Asia, American commerce would be benefited; but, at present, and for many years past, all of the steamships laden with Asiatic cargoes for the Atlantic ports of the United States generally return to Asia with European cargoes; or, if any cargo via the Suez Canal comes from American Atlantic ports, it is subject to double freight—that is, from America to Europe and from Europe to Asia, with transshipment at some European port usually.

It is high time for Americans to establish direct communication with the freights as low from New York to Asia as from Hongkong to America and as low as from Europe to Asiatic ports.

In order to place the Department in possession of the facts as a matter of record and for reference, if anyone wishes to investigate this matter, I beg to transmit herewith copies of the advertisements* of three well-known firms of British merchants engaged in ocean commerce, offering to convey freight from Hongkong to New York at 25s. per ton of 40 cubic feet per steamships of a large class via the Suez Canal.

A printed circular, dated July 16, 1895, issued by a British firm of the highest character and agents for several lines of steamships, shows the rate of freight was then at 55s. (over $13) per ton from Hongkong to New York.

Semimonthly circulars of a well-known firm of British merchants, who are agents for several lines of steamships, show freight rates from Hongkong to New York from July to December nominally at 30s. per "conference" steamships.

The *Tesiotdale*, an independent steamship of about 5,000 tons carrying capacity, with full cargo taken at 25s. from China to New York, left Hongkong on the 7th instant, and is to be followed, I am informed, by another independent steamship of the same class next month. The *Tesiotdale* will go to New Orleans for a cargo of cotton to England, and probably return to China with European cargo.

Why should not American merchants establish relations with these independent steamships for return cargoes at the same cheap freights for productions of American industry in competition with European productions for Asiatic markets? American sailing ships will be driven out of this trade by the steamships at sailing rates. Hitherto they accepted low rates for cargoes of kerosene from New York to China, with the prospect of getting return cargoes at remunerative rates; but when steamships drive sailing vessels out of the trade and bring to China only European cargoes, American interests will suffer.

CHARLES SEYMOUR,
Consul.

CANTON, *December 27, 1895.*

FOREIGN TRADE OF SIAM.

INTRODUCTORY REMARKS.

I submit herewith the most extended report I have yet made on the foreign trade of Siam, with special reference to the opportunity open to exporters of the United States.

The report is not only the result of careful investigation and study of actual conditions, but is intended to be sufficiently comprehensive to answer the questions generally asked in letters from home merchants.

I took over one hundred and fifty letters of inquiry received, made a summary of the information wanted, and, in the course of my report, have endeavored to answer the same, although replying to all those letters as specifically as my time would permit.

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*Filed in Bureau of Statistics, Department of State.

There is no doubt that now is the time when our American commercial interests should be made to appreciate this field; and I am humbly striving to do my part.

There is also a gratifying growth of inquiry and an indication that proper attention may be given to these markets, if agitation and discussion are kept up.

The efforts now being made by Great Britain, Germany, and France to control these markets are apparent on every side.

I therefore trust that my report may be given early publication in CONSULAR REPORTS, and that its length, which is necessary to cover the field, will not preclude its use in full.

SIAM AND THE SIAMESE.

Little is known in the United States about Siam, its people, products, needs, and general foreign trade. A definite idea of its location also is usually lacking. There is, in the average mind, a hazy conception that it is somewhere in Asia and toward the south, near the equator. How to reach its great capital (Bangkok) direct is a question that could be answered immediately by very few. The letters on file at this legation and consulate-general from prominent mercantile, manufacturing, and exporting firms in the United States undeniably attest the prevailing ignorance. For instance, it is not uncommon for important communications to arrive addressed to "Bangkok, Siam, British India," "India," "Cochin China," "Southern China," etc. A moment's inspection of a reliable map would remove all chance of error.

Location.—Siam, the principal country of southeastern Asia, is situated approximately between the fourth and twentieth degrees of latitude north and the ninety-eighth and one hundred and sixth degrees of longitude east. It has an area of about 250,000 square miles, which is as much as Japan proper and Korea combined, or equal to that of California and Oregon. It is bounded on the north by Burmah (British) and Tonquin (French), on the east by Annam and Cambodia (French), on the south by the Gulf of Siam and the Malay States, and on the west by the Bay of Bengal and Burmah. While the northern section is mountainous, the southern part is a vast level plain, well watered by great rivers and intersecting canals, forming a natural garden of wonderful fertility, where the chief product is rice, shipped to all parts of the world. The population is estimated at from 6,000,000 to 10,000,000.

The capital.—Bangkok is the capital and the only city of special importance to the outside world. It has a population estimated anywhere from 500,000 to 1,000,000. Through its heart flows the Menam, the country's main artery of commerce, both sides of which are lined for nearly 6 miles with floating houses and shops. Running at different angles to the river are numerous canals, many of them reaching far into the interior. These, in turn, are crowded with floating houses and numberless boats. The principal European establishments and residences, the homes of many of the Siamese nobility, the extensive buildings of the Palace, the Government departments, the headquarters of the army and navy, are substantial structures on land. There are a few roads or streets connecting these, and some new ones are being laid out. The majority of new commercial and residential houses are being erected on European lines. Although Bangkok has the name of being very filthy and unhealthful, I do not think it is any worse than the average Asiatic city. It has a good electric street-car line and extensive electric-light works.

Special characteristics.—To travelers, Bangkok and Siam present many interesting features, especially the temples, idols, modes of life and characteristics of the people, not seen elsewhere, and it is surprising that so few persons, bent on seeing all there is in their wanderings about the globe, visit this remarkable oriental capital. The average tourist goes from Hongkong to Singapore and *vice versa* without appreciating what he is passing in covering that gap in his route.

Bangkok is quite cosmopolitan and has almost as many inhabitants of other Asiatic nationalities as Siamese. The European and American colony numbers about 600 and is increasing. It is large enough to support excellent clubs and provide considerable social life. In its hands are the principal importing and exporting firms and the large rice mills and teak-wood sawing plants.

The Siamese, as a class, are not ambitious in trade, and the greater part of the small retail establishments and various kinds of shops are in the hands of Chinese. The latter also furnish the labor of the country. The Siamese lower classes are too lazy and can make a living too easily in this land of prolific vegetation and waters alive with fish to worry themselves about doing hard work. Absolute pauperism is practically unknown and mendicants are seldom seen. The average Siamese treats a foreigner with respect, is not belligerent or bullying in his manner, and exhibits none of the surly and impudent traits of the lower grades of Chinese. The higher classes are polite and, while among themselves they may condemn the "farangs," as Europeans are called, they have agreeable and affable manners in their presence. English is the language of diplomacy and trade, and the educated Siamese can usually converse in English. A passport is only required pro forma to travel in the interior, and the only danger attendant thereto arises from occasional bands of robbers. These, however, usually, though not always, as late events show, confine their attacks to natives and let foreigners alone.

MISSIONARIES.

The missionaries are popular with the people of the country and seldom are the objects of ill feeling. They undoubtedly have done, and are doing, great good in Siam, and I do not in the least sympathize with the cynical criticism that prevails among Europeans. I say this deliberately, with nearly a hundred missionaries under my jurisdiction and after a careful study of the situation. The American residents are chiefly of this class, but I note an increase also in the number engaged in other pursuits.

CONTROL OF TRADE.

The British control the major portion of the European foreign trade of Bangkok, with the Germans next, while there are a few Danish, Dutch, Italian, and French houses, respectively, of importance in the order named. Two important drug stores are owned by Americans. Of Asiatics doing a large import and export business, the Chinese are far ahead of all others, while after them come Indians, Senegalese, Malays, and Javanese. The Japanese are at present also making an effort to enter the field and have recently established several firms and a small banking house.

AMERICAN TRADE OPPORTUNITY.

I do not hesitate to say that I believe there is room here for a good, responsible American house or trading company. If such were started with sufficient capital, with managers who would study the needs and desires of the people, selling both directly and on commission, introducing all kinds of American products that might find a market, and providing a means for the Siamese to have direct relations with the exporters of the United States, I am confident that it would be successful. It might require a year or more to place it on a thoroughly paying basis, but the ultimate reward would be sure if the management were tactful, persistent, and not discouraged by some disappointments at first. It might be said that when a party in Siam now wishes anything which is or can be manufactured in the United States, he is at loss how he shall proceed to get it, and sees before him long delays of correspondence and inquiry before he has sufficient data to place his order. On the other hand, he goes to the local British or German house and in a few minutes can determine the order. Were a responsible American house established, this great difficulty would be obviated. The advantages of having houses controlled and managed by men of the same nationality as the home exporters can not be overestimated. The experience of Great Britain and Germany prove this, and their consuls often refer to it in their reports.

EXTRATERRITORIALITY AND TRADE.

There is the advantage of extraterritoriality in Siam, which places all firms under the respective jurisdiction of their own consular authorities and makes them theoretically on home, not foreign, soil and free from the action of native officials. Siam hopes for the day to soon come when she can ask the great powers to make treaties, similar to those they have recently signed with Japan, abolishing extraterritoriality. The great commerce carried on by Bangkok is largely due to the protecting and fostering influence of extraterritoriality and it is not probable that it will be given up until the advantage of such a step is quite apparent.

HOW TO REACH BANGKOK.

Two regular British steamship lines connect Bangkok with the great ports of Hongkong and Singapore. There are twelve first-class steamers, averaging about 1,200 tons each, running to Hongkong, and eight, averaging 650 tons each, to Singapore. In addition to these, there is quite a fleet of tramp steamers and many sailing ships. Bangkok is approximately 850 miles from Singapore and 1,400 miles from Hongkong. At Singapore, connections are made with all the European lines which have connections in turn at home with the United States; at Hongkong, with the several different American and Canadian lines running to San Francisco, Portland, Tacoma, and Vancouver. From the Pacific Coast to Siam requires only one change, at Hongkong, and from New York, a steamer occasionally leaves direct for Singapore, but usually transshipment is made at a European port. Freight rates to and from Hongkong and Singapore are not excessive, though, perhaps, higher than if the present companies had strong competition. Mail matter from the United States to Siam commonly requires forty days, but sometimes is received in thirty-five days, hence about two and a half months must be counted upon for replies in correspondence. Siam is in the International Postal Union.

BANKS AND NEWSPAPERS.

There are large banking agencies here which have representatives in New York, Chicago, and San Francisco and readily execute bills of exchange. There are three newspapers, two published in English and Siamese and one exclusively in English, which reach the moneyed and educated classes of Siamese and foreigners. They provide good advertising mediums and could be patronized with advantage to American firms. Two are dailies and one is triweekly. The proprietors are all British subjects, and in this way a very distinct advantage is gained for the trade of Great Britain. Following a natural and logical course, they lose no opportunity to advance the commercial interests of their home country; and yet the Bangkok press has taken no position adverse to American interests and has been uniformly kind and liberal in its treatment thereof. Although this is not always true of newspapers in the Orient, I would say that, on the whole, the press of eastern Asia seems ready to open its columns to discussions and reports on American trade matters.

DUTIES AND CUSTOMS.

The duty placed upon importations is 3 per cent. The exact wording of the treaty in regard to the duty is as follows:

> On the articles of import, the duty shall be 3 per cent, payable at the option of the importers either in kind or money, calculated upon the market value of the goods. Drawback of the full amount of duty shall be allowed upon goods found unsalable and reexported. Should the American merchant and the custom-house officer disagree as to the value to be set upon imported articles, such disputes shall be referred to the consul and a proper Siamese officer, who shall each have the power to call in an equal number of merchants as assessors, not exceeding two on either side, to assist them in coming to an equitable decision.

Thus, it may be seen that there is every reason to expect fair treatment from customs officials, and if that is not realized, there is proper appeal. Duties on exports from Siam are also fixed by treaty. The chief customs officials are Europeans, with Siamese assistants.

STATISTICS OF FOREIGN TRADE.

The total value of the foreign trade of Bangkok in 1894 amounted to $41,752,406 (silver).* Of this, exports were $24,668,950 and imports $17,083,456. That the trade of this port is rapidly increasing is shown by comparison with the returns of 1892, when the total was $19,509,269, of which exports were $10,084,077 and imports $9,425,192. This is a clear gain in two years of over 100 per cent in both exports and imports.† In quoting from the customs returns, it is impossible to tell exactly to and from what countries goods go and come respectively, as they are invariably classed as exported to or imported from Hongkong and Singapore and not points beyond.

Exports.—How completely rice dominates the exports from Siam is shown from the value of shipments in 1894, which were $16,358,574, or 66 per cent of the total, and this does not include broken rice, valued at $486,346, and paddy, at $50,364. The major portion found a market in Hongkong and Singapore. Europe purchased rice to the value of $1,519,738 and Brazil came next with $1,075,714. A small amount only went direct to the United States, but a considerable quantity was resold in Hongkong to American buyers. The rice of Siam is generally of a good quality and the demand for it is destined to increase.

Teak wood, the next export in value after rice, was shipped in various shapes to the amount of $1,264,768. This is purchased in large quantities for shipbuilding, and the British navy is an important consumer for the best classes of the wood. The French navy has bought in this market to some extent recently. Europe is the chief market, with Bombay next, taking most of the second quality. Very little goes to the United States, but with no duty for its importation the demand for its use in shipbuilding should increase, as it is conceded that it has few, if any, superiors for that purpose.

Exports of gums, including stick-lac, gamboge, gum benjamin, gum dammar, and cutch, were $188,014 (Mexican). There is a demand for these in the United States and quite a trade could be developed if well handled.

Of seeds, the chief exports were: Pepper, $315,520; cardamom meal and cardamoms, $192,297; teal seed, $77,122; pease, $18,582; and lotus, $11,965.

Sugar exports were only $34,518, which represents all that is left of what once promised to be a large industry.

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* The dollar used throughout this report is the Mexican dollar, valued at 51.7 cents (gold) in 1894.

† The consul-general, in his estimate of the increased value of Siamese foreign trade, overlooks the difference in the value of the Mexican silver dollar in 1892 and 1894, viz, 71.1 cents in the former and 51.7 cents (gold) in the latter year, a difference of 19.4 cents on the dollar. Reduced to American gold values at these respective rates, the trade of 1892 amounted to $13,816,413, and, in 1894, to $21,585,994—a gain of 56.23 per cent.

Under the head of animal products, exports of buffalo and cow hides were $189,214; buffalo and cow horns, $57,857; ivory, $43,846; armadillo skins, $5,875; rhinoceros horns and hides, $9,245; and tiger skins, only $396.

Fish exports were large, of which the chief were: Dried plahaang, $770,198; dried platoo, $487,550; and mussels, $145,798.

Birds' nests represented a growing export of $443,393.

The silk industry is not much developed, and exports only reached $39,478.

Of minerals, tin comes first, with exports of $61,492, an increase of $20,035 over the preceding year. A fair proportion of this went to the United States. This trade could be a source of great revenue to Siam, as it possesses some of the best mines yet opened in the world. Gold exports only amounted to $11,268, but there is at present quite a boom in gold mining. French companies are investing heavily.

Aside from teak, given above, other valuable wood exports were: Ebony, $130,154; rosewood, $125,348; sapan wood, $52,342; and agilla wood, $18,506.

Just what amount the United States bought of all the foregoing, it is impossible to determine, as the purchases were made either in Hongkong or Singapore, but, probably, a greater amount than is generally supposed.

Imports.—Of the total imports ($17,083,456), textile fabrics represented the largest class. Principal among these were: Shirtings, white and gray, $1,238,498; chowls, $782,644; twists, $672,571; miscellaneous piece goods, $625,292; prints and chintzes, $265,347; colored piece goods, $172,080; woolens, $27,111; cotton thread, $17,386; cambrics, $11,495; canvas, $9,608. The greater porportion of these came from Europe, while Bombay supplied a lesser proportion. The United States cut very little figure in the total, chiefly because no regular effort has been made to push American products of this nature.

Of food importations, the chief were: Sugar, $377,217; wines and liquors, $178,000; tea, $124,288; molasses, $83,193; fruit, $82,910; salt garlic, $82,850; flour, $72,564. Of these, flour comes entirely from the United States via Hongkong, and the demand is increasing. California wines might find a fair market, but no special effort has been made to supply them.

There are no exact figures on canned goods and specially packed provisions, but they must have been imported to a very large value. Milk, condensed and sterilized; butter in 1-pound and 2-pound tins, pease, asparagus, and vegetables and fruits of all kinds, meats, salmon, lobster, oysters, hams, cheese, properly tinned or packed, have a growing demand, and the products of the United States should compete more extensively with those from Europe. A small quantity of hams, canned milk, fruits, meats, and fish are already imported from the United States, mostly through London. Canned baked beans, brown bread, corn flour, cracked wheat, oatmeal, evaporated and dried fruits, breakfast bacon, baking powder, lard, pickles, and other similar products of the United States might find a direct market.

Hardware importations were $274,836; brass and copper ware, $221,616; earthenware, $178,485; crockery, $114,259; glassware, $89,280; silverware, $71,322; cutlery, $42,887; corrugated iron, $53,566; copper and zinc sheathing, $47,226; plain iron and steel, $51,524.

Machinery of various kinds was imported to the value of $146,489, but was used mostly in rice mills. Machinery of the same kind, but much improved, is made in the United States.

Under "miscellaneous imports" is kerosene oil, $483,946. The greater part came from the United States, but Russian and Sumatra oils are now entering the market in increased quantities. Other important imports were: Jewelry, $244,104; ship chandlery, $163,249; paper, $152,860; guns and ammunition, $99,825; shoes, $50,015; hats, $39,900. Under the head of unclassed is the large total of $1,727,292, but not so arranged in the customs returns as to be of any advantage.

POSSIBLE IMPORTS FROM THE UNITED STATES.

In addition to the many articles and supplies given above, I would note the following which might be exported to some extent from the United States if the market was properly handled and developed: Novelties of all kinds that will save labor, now finding a ready sale at home, and not rendered unsuitable by tropical heat; new electrical appliances, such as short-distance telephones and electric fans; locks of improved patterns, typewriting machines, letter presses and copying arrangements, combination-lock safes, harness and harness dressing, carriage builders' supplies, wheelbarrows, digging tools, edge tools, carpenters' tools, improved lamps and lamp fittings, toys, scales, cooking utensils and household tools, glass and wire goods for the house, musical instruments, cheap watches, pumps, general hardware, rice-milling and wood-working machinery, boat-building machinery and materials, and electric and ordinary railway equipment.

These, then, with the food products, and with the possibilities in other lines suggested by the figures given above, should at least interest American exporters in this field and prompt them to greater endeavor.

HOW TO INCREASE UNITED STATES TRADE.

In the course of my investigations, which I endeavored to make thorough, I have made note of existing conditions that hamper the development of American trade and of possible changes and improvements that suggested themselves. From consideration of these, the manufacturers, exporters, and merchants of the United States may discover something to their advantage.

(1) The lack of American shipping everywhere is so noticeable as to give the impression among Asiatics that we are not a commercial nation. Of over 500 merchant steamers and ships that entered the port of Bangkok in 1894, not one was American. Of over 1,700 vessels that entered the ports of Japan in the same year, only 32 carried our flag. There was a time when the ships of the United States were frequently seen in this harbor, and in

those good old days, our trade with Siam was extensive. Coincident with the decline of our commercial marine, came the surrender of trade exchange.

(2) The speedy construction of the Nicaragua Canal finds a strong argument in its favor in the Asiatic trade situation. It would be to the Atlantic Coast and the Mississippi Valley what the Suez Canal has been to Europe. From Japan to Java, one sentiment is expressed by all commercial experts, viz, that the canal should be dug. The longer the delay, the greater the loss to the exporters of the United States. New York, Boston, Philadelphia, Baltimore, Chicago, St. Louis, and New Orleans would then have a fair chance with London, Liverpool, Manchester, Hamburg, and Lyons.

(3) The permanent maintenance and extension of the steamship lines running from San Francisco, Portland, Tacoma, and Seattle to this coast should be assured by the patronage of American exporters, and, in turn, these companies should offer the inducement of the lowest freight rate possible, so as to enable shippers to compete with European merchants who export by their subsidized lines. In this connection, I would state that there is every evidence in the Asiatic situation that subsidies to steamship lines are paid back many-fold in increased trade.

(4) The establishment of American houses with sufficient capital and the right kind of men I have already recommended. Representatives should also be sent to these countries, but they must be men of experience, tact, courage, and refinement. A polite, affable, but earnest man, who understands his business, will not be discouraged by superficial signs, and will study the field and build up trade, but a boorish, egotistical person will accomplish nothing. If these men come, they must not believe all they will be told or expect to make a grand conquest at once, but make sure of their information and proceed step by step. In the matter of trade commissions sent out by chambers of commerce, I can simply point to such enterprises dispatched by the chambers of commerce of Europe which are now investigating the China market and receiving hearty home support.

(5) Chambers of commerce and boards of trade, however, can bend their energies to obtaining and keeping on file elaborate data on the Asiatic market, the standing of Asiatic merchants and houses, freight rates to all Asiatic ports, most direct routes of shipment, rates of exchange and current prices, etc. One objection often raised here to trading with America is the delay caused by the American exporter wishing to assure himself of the reliability of the importer; another is the demand generally made that the local importer must deposit a certified check in some bank, and hence lose the use of the money pending the long wait for the arrival of the goods. European exporters know at once the standing of the buyer, and, practically, give him the same advantage as those offered buyers near at hand.

(6) The American exporter must always remember that he is competing with the old houses of Europe, which have been long in the field, that there are others just as ready as he to sell, and hence, he must compete against

them with their own methods and be willing to give the same terms of credit. For instance, in view of these countries using silver exclusively, considerable time is often granted buyers, so that they may take advantage of any rise in exchange to remit payments.

(7) As specific important suggestions, but grouped together, the following are submitted to American exporters: (*a*) Advertising in the local press of Asiatic ports; (*b*) sending consignments of goods at risk of exporter to reliable parties to be sold on commission; (*c*) preparing goods with a special "chop" for the local market; (*d*) using great care in packing all kinds of goods; (*e*) bearing constantly in mind that goods shipped into the tropics must invariably be prepared accordingly and under different conditions from those sold in northern sections; (*f*) allowing only the best quality of goods of any kind or class ordered to be shipped; (*g*) quoting the very lowest rates possible, especially when introducing goods or first entering the market; (*h*) and employing the same energy and persisting with the same force, in spite of early difficulties and disappointments, that they have exhibited in building up the great internal home trade of the United States, which is an achievement unrivaled in the world's material history.

(8) Congress could also lend great assistance if it would approve of changes which would increase the effectiveness of legations and consulates in advancing American commercial interests. At present, there is no denying the fact that in comparison with legations and consulates of Great Britain, Germany, and France, those of the United States are undermanned, and yet they are expected to equal the former in work done and results accomplished.

(9) In conclusion, I must emphasize the necessity of immediate and continued effort all along the line. The best proof that the market is worthy of such effort is found in the unremitting and reinforced campaign of European merchants to hold the trade they have already and control the increase which they believe will follow as a result of the recent Japan-China war. I fear it is now or never. No other part of the world—not even South America—offers at the present moment a more inviting field.

All signs indicate that the great battle for the commercial supremacy of the world is to be fought out during the next ten years.

JOHN BARRETT,
Consul-General.

BANGKOK, *November 14, 1895.*

IRRIGATION IN SIAM.

Siam has one enterprise of inland development well begun that is worthy of our Western States. It is experimenting in the construction of irrigating canals, which are also navigable for small craft, and is using therefor the most approved modern machinery. As a result, large tracts of land are being opened to settlement and improvement which before were jungle.

Siam is essentially a land of waterways. Great rivers come down from the mountains in the north. On reaching the vast level plain that extends from the base of the foothills to the Gulf of Siam, they branch into lesser streams which in turn are connected with numerous canals, some natural and others artificial. The main artery of the Kingdom and the great highway of its inland trade is the River Menam ("mother of waters"). From this most of the canals radiate so that it is possible to proceed to almost any point in the country by boat. This accounts for the fact that there are no regular roads outside of the capital (Bangkok), which is located on the Menam about 30 miles from its mouth.

Notwithstanding the land is cut with this system of rivers and canals, there are large sections with no waterways. It is one of these that the new enterprise is aimed to open.

The credit for organizing so important an improvement in Siam is due to certain Siamese princes, aided by one or two foreigners, principal among whom are Prince Phra Ong Chow Sye Sanitwongse, an uncle of the present King; his son, Dr. Y. S. Sanitwongse; Mom Rachawongs Supan; and a German, Mr. E. Muller, who has long been a resident of Siam and who has done much for its material progress. As the Government was not ready to undertake the work directly or finance it, a company called the Siam Canal and Irrigation Company was formed, to which the King granted a concession.

Concession.—This includes a large extent of valuable but undeveloped land between the Menam and the Bangpakong rivers, and yet not more than 50 miles from Bangkok. The grant was made on these principal conditions: (1) The canals should be cut within the limits of the concession, in order that lands might be sold to settlers; (2) the Government is to receive 20 per cent of the net profits as royalty for granting the concession; (3) the land is to be sold on canals the width of which is 18 to 30 feet at 2 ticals (about 65 cents in gold) per rai (twenty forty-ninths of an acre), on those of 36 to 42 feet width at 4 ticals ($1.30 in gold) per rai, and on those of 48 feet width at 5 ticals ($1.62 in gold) per rai; (4) the grantor, however, if he sees fit, can lower or raise the rate, if conditions demand it; (5) as no specific time can be easily set for the completion of the entire system of canals, a time is fixed for the construction of a specified canal. Should difficulties arise necessitating a stoppage of work, the grantor must be informed, and, according as he thinks fit, may grant or refuse an extension of the term stipulated. If the company does not complete the work in the time stipulated, the agreement and the concession shall be forfeited, the rights and interests of the company passing back to the Government, which may undertake the work itself or grant the rights and interests to another company, as it shall deem proper.

Progress of the work.—In course of construction are three canals, viz, one 48 feet wide and 9 feet deep, to be 32 miles long; one 36 feet wide and 7½ feet deep, to be 40 miles long; and one 30 feet wide and 4½ feet deep, length not exactly defined. Work further projected includes one canal 2½ miles long with a width of 48 feet, and two others, respectively 36 and 30 feet wide, length not stated.

These figures show that the enterprise is planned on an extensive scale, and if fully carried out should be a source of great profit both to the company and the Government.

At the time of preparation of the data sent to me by the Government, work already accomplished included 10½ miles on one canal 48 feet wide, 31½ miles on another 36 feet wide, and 36 miles on another 30 feet wide. By the time this report is published, a third more can be added to these totals of length.

The capital of the company is given as 320,000 ticals (about $104,000 in gold). It has purchased the latest patterns of excavators and dredges in Germany, and the former are kept working night and day. They are provided with electric light, furnished by the same boilers that provide the power for the machinery. Each machine is in charge of a foreign engineer, but the other labor is Chinese and Siamese. Once begun, the work is not very expensive.

The progress of cutting the canals is very rapid, owing to the lack of resistance in the material excavated. There are no stones whatever. The surface soil is a dark muck, and beneath that is a deep stratum of clay which is cut as easily as cheese with a sharp knife. As the ground is not high and is soaked for a greater portion of the year, the work is rendered still less difficult. In fact, this whole area would not need irrigation for northern crops, but for rice, the chief product of the land, there must be regular and continued flooding of the surface. During the high-water season, the rivers become swollen, overflow their banks, and force the water back into the country through the canals, which in turn flood the neighboring fields.

But the use of these canals is not confined to irrigation. They provide the "highways" by which all the farmers carry their products to the market. Without roads on land, the interior would otherwise be useless. The canals are amply deep for the fleet of paddy boats that use them.

The system of the company's canals consists of large main ones connecting with the rivers and smaller ones running at right angles. Those in turn have more ramifications, made by the settlers, of such nature and size as they have time, labor, and room to dig. There is no lack of water, and hence no limit or measurement on what each settler can use. As soon as the canals are completed they become public property. The financial return to the company is in the disposal of the land only.

A NEW ERA FOR SIAM.

If this project is completed successfully, there will be many others started. The digging of these canals may inaugurate a newer and greater prosperity for Siam, for it is, and must always be, essentially an agricultural country. It is a natural garden, a large portion of which is yet unimproved. No other country has land better adapted to the growth of paddy or rice. Its exports of this staple during the last two years amounted to over $42,000,000 (silver), and yet vast areas of rich land are not cultivated.

If the Siamese Government will only show the same spirit of progress as that manifested by some of its own people cooperating with foreigners, give the necessary moral and material support and fully awaken to the advantage of making its domain the home of a prosperous people, there is no question that Siam will some day rank as one of the richest smaller kingdoms of the world and one of the first of Asia.

Some interesting photographs of the work are forwarded herewith, which will aid in showing the scope and progress of the undertaking.*

JOHN BARRETT,
Consul-General.

BANGKOK, *November 23, 1895.*

CURRENCY REFORM IN RUSSIA.

The expectation, but uncertainty, of currency reform has had a most depressing effect on Russian trade, home and foreign. The change, it may be said, has come sooner than was anticipated, and Russia now faces a new era of development in finance, industry, and foreign commerce.

The proposed reform, which has been worked out by the Minister of Finance and which will soon be introduced, may be described as follows:

A gold coin of 10 rubles will be issued, the value of which will be equal to that of the present paper ruble. The new coin will contain 1 zolotnik† and 78.24 dolias (about 119.05 grains troy) of pure gold. Its full weight will be 2 zolotniks and 1.6 dolias, and it will be legal tender to any amount. Silver, although taken in the Government treasuries to any amount, will be accepted for customs only to the value of 1 ruble, and may be refused in payment of private accounts when presented in sums of more than 50 rubles. One ruble of the present gold coins (imperials and half imperials, issue of 1885) will be accepted for 1.50 rubles of the new coinage; consequently, all Government and private loans and agreements contracted in metallic rubles before the new law comes into force will be counted at one and a half of the new coinage. The issue of deposit certificates will be stopped as soon as the customs duties are permitted to be paid in paper rubles. The Government Bank must exchange paper bills of the Government for gold of the new coinage, ruble for ruble, the exchange to be made at the St. Petersburg section of the bank for any amount which will be on hand, and for this purpose the bank will be supplied, for the present, with the sum of 750,000,000 rubles of the new coinage, being the present exchange fund of the bank.

Hereafter, the Government treasury will issue no more paper bills, but those outstanding have the same force in payments as the gold money of the new coinage.

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* Photographs filed in Bureau of Statistics, Department of State.

† 1 zolotnik (4.2657 grams)=96 dolias.

The Government Bank is permitted to issue bills for commercial operations to the extent of a milliard, on condition that the paper bills in circulation shall not exceed by more than double the amount of gold on hand, while for every paper ruble issued over the milliard there must be gold on hand to cover the same.

The issuance and destruction by the bank of paper money will be controlled by officers of the Government, assisted by the representatives of the nobility, commerce, St. Petersburg city council, and the St. Petersburg Exchange.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 4, 1896.*

GOLD AND PAPER MONEY IN RUSSIA.

The rate of exchange for gold imperials has been raised 1.35 per cent over the last quotation, and this advance has been made, according to the statement of the Imperial Minister of Finance, simply for convenience and simplification of calculation, making its relation 1 to 1½; so that the present value of the Russian gold currency is adjusted as follows:

	Rubles.
1 imperial, new issue	15.00
Half imperial, new issue	7.50
1 imperial, old issue	15.45
Half imperial, old issue	7.72
1 chervonec	4.63

This rate will remain until December 31, 1896. According to the above quotations, 1 gold ruble equals 1.50 rubles in the credit or paper ruble or 1 paper ruble equals 66⅔ copecks in gold.

In announcing this change, the Minister of Finance reviewed the development of the various measures adopted for the fixing of the rate and their favorable results. After citing the different changes, he says:

The great instability of the rate of exchange had a very bad influence on Russian commercial life. Agreements which had any relation directly or indirectly with foreign trade and were not guarded against loss by the so-called "covering of risks," proved generally unprofitable. The most careful financial calculations were often risky. The considerable fluctuation of the ruble caused the prices of different articles to change. If the rate of exchange fell, it embarrassed the import of foreign goods, and, in case of advance, it facilitated foreign competition with Russia's production; hence, some speculators gained large unmerited profits and others lost. On the average, the country had only occasional profits, but generally sustained large unexpected losses, which often embarrassed enterprises.

In 1892, the Ministry of Finance decided to stop the speculation in paper rubles and to protect their value abroad, and for that purpose, adopted two measures—

(1) By issuing an order June 20, 1893, to the Russian exchanges, forbidding the making of the differences in gold value, and ordering a statistical duty for discount of the ruble moving across the frontier, reinforcing supervision of stock exchanges and restraining the banks from exporting rubles for speculation.

(2) A measure for the satisfaction of the demands of foreign bills of exchange and proposals for the same, if they really were necessary for the purposes of commerce. The large amount of gold (over 670,000,000 rubles) accumulated by the Government treasury and by the Government Bank at the end of 1880 and beginning of 1890, and which has since increased still more, offered the possibility of establishing the stability of the rate of exchange.

Further, since 1892, the amount of paper rubles has not increased, because the 125,000,000 rubles which were temporarily issued August 14 and 28 and September 23, 1892, and October 4, 1893, were withdrawn on January 30 and March 15, 1893, and June 9, 1894. However, the gold guaranty of credit bills increased considerably, in consequence of the reinforcement of the exchange fund by the order of the Czar on December 4, 1894, and March 3, 1895, to the amount of 160,000,000 gold rubles. This fund now amounts to 375,000,000 gold rubles, independent of the 75,000,000 rubles of the temporary issue, which were not withdrawn from circulation and which guaranty ruble for a ruble. The desire of the Ministry of Finance to lessen the fluctuation of the value of the paper ruble and the measures taken for this purpose were mistrusted, not only by circles interested in the continual fluctuations of the rate of exchange, but by a considerable part of the population. They supposed that the fluctuation of Russian rates of exchange was inevitable and impossible to successfully oppose; that the interference of the Government would only destroy the natural order of economic relations, and, without bettering the situation, cause great losses. The propagation of such ideas, which gave to the abnormal course of things the significance of an economic law, shows that the evil done by the instability of the money unit has penetrated so deep into the economic life of Russia that the public opinion of the country has become used to it. Facts, however, show that these apprehensions were erroneous. After the adoption of these measures, the rate of exchange did not undergo any great changes, and its fluctuations decreased gradually, coming down to such a minimum that they did not influence the price of the paper ruble and did not exceed the normal changes of the rate of exchange between countries with metallic currencies.

In 1892, the fluctuations of the rate of exchange, in comparison with the lowest rate of exchange of St. Petersburg on London, equaled 9.6 per cent (in 1890, it was 19½ per cent, and in 1891, 28 per cent); in 1893, 6 per cent; in 1894, 1.94 per cent; and during ten months and a half of 1895, they did not exceed 0.54 per cent, notwithstanding that during the few latter months great political and economic events of universal importance, and especially of great significance to Russia, have taken place, such as the temporary interruption of commercial relations between Russia and Germany, the death of Alexander III, the war between China and Japan and the diplomatic negotiations between the different powers which occurred therefrom, and, finally, the difficulties on the Balkan Peninsula and in Asia Minor. The rate of the ruble, which was before influenced by the smallest political event, remained during the above most important events on a scarcely changeable level; and when, in the autumn of 1894, foreign stockjobbers tried to take advantage for their own interest of distressing times, they suffered great losses, as their operations proved unsuccessful.

The stability of the rate of exchange attracted the attention of a special committee of finance, which, in its journal of March 15, 1895, stated that "the policy which the Ministry of Finance pursues, decreasing the fluctuations of the price of the paper ruble to a minimum, is quite successful." Being satisfied that the money market can be guarded from fluctuations, and having given proofs of the stability of the ruble to persuade the commerce and industry of Russia and foreign stock exchanges, the Ministry of Finance began to secure the results acquired by trying to do away with such obstacles as hindered the circulation of the gold currency. To this end, when the opinion of the Government council, sanctioned by the Czar on May 8, 1895, permitted agreements in Russian gold coin to be made and different duties to be paid in gold at the rate fixed by the Minister of Finance, the following principal measures were adopted:

(1) All establishments of the Government Bank were allowed to buy, and the principal ones also to sell, gold coins at the rate fixed, as published.

(2) Regulations concerning deposit certificates, written on a gold basis, were published, and on August 1, 1895, all establishments of the Government Bank began to issue such certificates.

(3) In August, the St. Petersburg and Moscow banking offices and other establishments of the Government Bank began to accept gold money on current accounts.

(4) From July 1 to August 31, permission was given to pay in gold coin into the Government treasuries some of the excises, and, from September 1, into all the treasuries all the excise duties. Furthermore, by virtue of the opinion of the Government council, sanctioned by the Czar on November 6, 1895, all the Government establishments and also railway offices were permitted to accept gold coin for all kinds of payments.

The price of the gold coin was fixed in accordance with its exchange value, namely, 7.40 rubles for a half imperial and 14.80 rubles for 1 imperial of the coinage of December 17, 1895, and, in conformity thereto, the price of the gold money of the old coinage was fixed. For the receipt of the gold money at the treasuries and other Government establishments, this price was fixed for a certain period, first until August 31 and then until December 31, 1895; for the sale and purchase of the gold by the establishments of the Government Bank, this price was fixed on May 25, 1895, for an uncertain period, and, in case of change, the new price would come into force only on the day after its publication.

Until the end of November, this price—7.40 rubles for a half imperial—did not change, and on all the Russian exchanges, contracts were made on a gold basis at the price fixed by the bank. In the autumn, as usual, big demands for money take place in the Government Bank. In order to satisfy the urgent necessities of commerce and industry without issuing temporarily paper rubles, the Government Bank put out a large amount of gold coin, which, however, could be immediately changed for paper money, if desired.

At the beginning, neither the merchants nor the public wished to accept gold, partly because during the last thirty-five years, our population lost the habit of using or seeing gold currency, and partly because they were afraid that the value of gold coins would depreciate and that the holder would lose by it. Therefore, many parties, and among them representatives of first-class business houses of Moscow, said that they would be willing and ready to accept gold money from the banks, provided the banks would agree to take the money back again within a certain period at the same price as it was issued. Their fears were erroneous. The Ministry of Finance had no intention of lowering artificially the value of gold. But to favor the circulation of gold currency, the Government Bank, at the end of September, informed the country that the bank would buy and accept, until December 31, 1895, gold coin at a price not lower than the one fixed June 1, 1895, for the excise payments, namely: Imperial of new coinage, at 14.80 rubles in paper; half imperial, at 7.40 rubles in paper; imperial, old coinage, at 15.24 rubles; half imperial, at 7.62 rubles; chervonets, at 4.57 rubles.

From the foregoing, it will be seen that the Government Bank bound itself until December 31, 1895, not to lower the rate of gold coins, but reserved the right of increasing it. But the Minister of Finance noticed that the price established was not at all convenient for calculations, *i. e.*, that the price of a half imperial at 7.40 rubles made 1 gold ruble equal to 1.48 rubles in paper; consequently, the transfers from the gold to paper value were complicated for daily practice, and that a very small advance of the half imperial in value, say 10 copecks, making it 7.50 rubles, would simplify all calculations and payments, because 1 gold ruble would equal 1.50 rubles in paper, or the relative value of 1½, and for this reason, exclusively, the Minister of Finance decided to fix, for the term of one year from January 1, 1896, the last-named rate, at which the gold coin will be received by Government establishments and railway offices.

Although this advance is very small (1.35 per cent), in comparison with the fluctuations of the former years, still it would have been unjust toward persons who effected obligations on a gold basis of the former rate to make this change at the end of December. In order that such parties might liquidate their obligations without loss, the change in the rate was made gradually. November 25, the Government Bank declared the value of the half imperial to be 7.45 rubles, and it is only now that it has been published that from January 1, 1896, all Government and railway establishments will accept half imperials at 7.50 rubles.

The foregoing statement goes to show (1) that the Minister of Finance will guard the price of the paper ruble from fluctuation in the future; (2) that the gradual change of the rate of gold coins from 7.40 rubles to 7.50 rubles for half imperials was not influenced by any exterior circumstances, but only by the desire to establish a convenient and simple relation between the gold and paper values; (3) that in gradually changing the value of the gold currency, the Minister of Finance and the Government Bank have lived up to the obligations taken upon themselves, *i. e.*, gold coins were accepted at all Government and railway establishments at the fixed rate, and the rate was not lowered.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *December 24, 1895.*

AN ENGLISH VIEW OF RUSSIAN FINANCE.

The London Statist, of April 4, in an article on the Russian currency, says:

In spite of the reports circulating for some time, the Russian Government has very wisely decided not to attempt the resumption of specie payments for the present; and we venture to think that it will be many a day before it undertakes so difficult a task. What it really is doing is simply continuing a policy it has been pursuing for several years. The Imperial Bank of Russia is merely a department of the Russian Treasury. It has no shareholders, and therefore no paid-up capital. For nearly half a century specie payments have been suspended, and the currency consists of notes of the Imperial Bank. Just before the outbreak of the Russo-Turkish war, the notes in circulation amounted to a little over 780,000,000 rubles. During the war there was an additional issue of 417,000,000 rubles. A couple of years later, however, the treasury ordered the bank to withdraw this war issue. As a matter of fact, it withdrew the greater part of it, but it did not cancel the notes as instructed, and there still remain about 266,250,000 rubles of this issue. Lastly, during the late famine there was another issue of 75,000,000 rubles; so that the total currency of all denominations amounts to 1,121,250,000 rubles. Gradually the Government has been accumulating gold in the Imperial Bank. As our readers know, the customs duties are paid in gold, and a portion of the various conversion loans raised in France was also set aside to form a great war chest. Altogether, Russia holds over 100,000,000 sterling in gold, and of this sum she has from time to time paid in portions to the Imperial Bank, specially allocating these sums as a reserve against the note issues. Now a ukase has been published ordering 75,000,000 gold rubles to be transferred to this reserve fund, which, it is stated, will raise the fund to a total of 500,000,000 gold rubles. The paper ruble is worth only two-thirds of the gold ruble; consequently, the 500,000,000 gold rubles are equal to 750,000,000 paper rubles. So that out of the total of 1,121,250,000 rubles of notes there are only about 371,250,000 rubles uncovered by gold. It is undoubtedly a very strong position. If Russia were a peaceful country, devoting herself to the development of her resources and carefully abstaining from adventures abroad, she would clearly be able to resume specie payments now—indeed, she could have done so years since. But everybody knows that Russia does perpetually engage in adventures abroad, and therefore the so-called gold reserve is in reality no reserve at all.

Whether it lies in the Imperial Bank to the credit of the Government, or whether it lies with the agents of the Russian Government in foreign cities, or whether it is held in the Imperial Bank and is dubbed a note reserve, it is always at the disposal of the Government, and may be spent precisely as the Government chooses. Although there are, practically, not much short of three-fourths of the paper circulation held in gold in the Imperial Bank, no holder of a note can insist upon getting gold, though of late the bank has been permitted to pay out gold.

In the present condition of Europe, nobody can foresee how long peace will be maintained. If a great war were to break out, it is perfectly clear that Russia would have to spend immense sums. Assuming even that her credit in France remained as good as it is to-day and that the French were convinced of the desirability, in the interests of France, of supplying Russia with funds, it is certain that no very large amounts could be borrowed in Paris on the outbreak of a great European war. For France would have to borrow herself, and she does not possess gold enough to furnish Russia as well as herself with all the funds that would be required; consequently, the outbreak of a great war would lead necessarily to a very large expenditure of the gold that has been accumulated by the Russian Government. If Russia were to be victorious, no doubt she would follow the example set by the great Napoleon, and more recently by the Germans, and would requisition from the countries occupied by her troops. She need not then spend immense sums. But if Russia were not able to overrun the hostile countries, if she had to wage a defensive war, or if she were barely able to advance some way into the hostile territory, and the conflict were to be prolonged and doubtful, then she would have to draw upon her accumulated resources. It is evident, under these circumstances, that her true interest is to keep the gold she has gathered together so painfully and so slowly, so as to be able to defend herself in a life-and-death struggle. It seems therefore in the highest degree improbable that Russia will attempt to resume specie payments until the prospect of prolonged peace is much more assured than it is now. Even if peace were reasonably certain, it is very doubtful whether Russia could keep the gold if it were freely paid out. It is quite true that Russia is a great exporting country, and that, because of her prohibitive tariff, her exports largely exceed in value her imports. But, then, Russia has an immense debt abroad, which every year drains from her very large sums. And, furthermore, Russia has to buy very considerable quantities of war material to keep up with her great military neighbors. These points, however, need not be labored just now; the essential thing is that if war were to break out Russia would need immense amounts of gold, and that, consequently, she is not likely to pay out that gold just at present.

UNITED STATES GOLD COIN IN RUSSIA.

By an imperial order, issued to the Minister of Finance on the 1st of January, 1896, he was ordered to transmit from the treasury the sum of 50,000,000 rubles (gold) to the exchange fund of the Government Bank, for the purpose of lessening the debt, bearing no interest, for paper currency; and the order was carried out on the 3d of March, 1896, when the above sum, consisting of Russian and foreign gold coin and bars, was transmitted under the supervision of an assistant Minister of Finance, the council of the Government Bank, and selected members of the stock exchange and merchants of St. Petersburg, who, after satisfying themselves as to the value and correctness of the amount, verified a statement to that effect.

Consuls of foreign countries residing in St. Petersburg were invited, on request of the Minister of Finance, by the governor of the bank to be present as guests on that occasion. I had the honor to be invited, and was present. After some preliminary proceedings, we were led into the vaults of the bank, protected outside by a military guard, and examined first the gold (50,000,000 rubles) deposited according to the ukase, which consisted of the following denominations:

Denomination.	Number of pieces.	Weight.				Value.
		Poods.	*Pounds.*	*Zolotniks.*	*Dolias*	*Rubles.*
United States, half eagles	2,220,000	1,132	4	91	12	14,371,756.00
England, pounds sterling	144,007	70	2	90	81	906,039.24
France, 20 francs	127,000	49	34	79	12	633,068.18
Germany, 20 marks	174,000	84	17	89	53	1,071,914.53
Belgium, 20 francs	160,000	62	37	91	81	799,087.09
Italy, 20 lire	7,000	2	30	1	60	34,914.46
Greece, 20 drachmas	26,000	10	9	26	36	129,885.54
Austria:						
8 florins	4,000	1	22	90	48	19,575.21
Ducats	4,000	....	33	87	78	11,732.30
Turkey, lire	65,000	28	19	75	06	366,778.48
Japan, 5 yen	259,971½	132	9	8	3	1,678,519.11
Roumania, 20 levs	53,500	21	2	69	78	267,444.01
Finland, 20 marks	98,500	38	31	40	30	492,351.44
Russia:						
Half imperials—						
Old coinage	397,031	158	11	56	41	2,040,590.12
New coinage	4,925	1	37	55	78	24,625.00
Imperials, new coinage	2,106,500	1,658	34	72	48	21,065,000.00
Gold in bars	822	438	10	7	17	6,086,719.29
Total	....	....	....	....	....	50,000,000.00

NOTE.—Pood=36.112 pounds; Russian pound=409.51 grams avoirdupois; zolotnik=96 dolias=4.2657 grams troy weight.

After the examination of this lot we were shown the balance of the bank's gold and silver funds on hand that day, consisting of gold coin and bars of the value of 572,836,347 rubles and of silver of 1,424,025 rubles. In this lot, were 3,933,823 United States half eagles, valued at 25,462,945 rubles, so that the Russian Government Bank has on hand to-day 6,153,823 United States half eagles, or $30,769,115 in gold coin. To my inquiry as to how that amount of United States gold coin came there, the governor of the bank informed me that the Minister of Finance purchased it at different times in Berlin, Paris, and London.

The gold coin is kept in small bags, and those again in larger ones, which are piled up in tiers. Each bag is sealed, with a ticket attached, on which is written—sometimes it is directly on the bag—the denomination, the number of pieces therein, and the value thereof. The bullion is kept in open cases protected by heavy wire screens. Each case contains gold bullion to the value of 5,000,000 rubles.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 5, 1896.*

BIMETALLISM IN GERMANY.

The Wirthschaftliche Vereinigung (economic committee) of the Reichstag decided on the 14th instant to bring the following measure before that body:

> The Reichstag shall declare that international bimetallism best answers the interests of Germany, and request the confederate governments (German states) to do all that is in their power in order to establish and secure, by international convention, a fixed proportion of value between silver and gold.

This economic committee is not a branch of the regular organization of the Reichstag, but a self-constituted committee, with a permanent organization, composed largely of members of the Agrarian party. It is in the ranks of this party that bimetallism finds its adherents in Germany.

It is known that a corresponding proposition will be submitted simultaneously in Paris and London.

This proposal naturally attracts attention to bemetallism and to the monetary situation in Germany.

Dr. Karl Helfferich has prepared a succinct article on the introduction of the gold standard into Germany, treating also of the past monetary policy of the country and viewing the present state of bimetallism, which I submit herewith:

INTRODUCTION OF A GOLD STANDARD.

(1) One of the most important tasks incumbent on the German Empire after the completion of the Franco-German war was the due ordering of the monetary system. Endeavors to bring about a uniform German monetary standard were almost as old as the diversity of German coinage systems. At the very time when the Franco-German war broke out, the German governments were preparing for a monetary reform. After the war, the question arose whether Germany should adhere to the silver standard, which existed in all the German states except Bremen, or whether she should proceed to a change in the monetary standard.

(2) The silver standard hitherto in use had entailed material evils. Experience had shown that while a silver standard was in force, a circulation of gold could not be maintained. But silver was too inconvenient for payments of a large amount, and, consequently, the public was inclined to use, instead of coin, paper money of all descriptions. This circumstance was taken advantage of by numerous small banks to issue inadequately secured bank notes for small amounts, which, for want of a gold circulation, the public allowed to be thrust upon them. This evil could only be remedied by a sufficient gold circulation.

(3) The question as to whether these evils could be remedied by a transition to a bimetallic standard was scarcely discussed. France had not had the best experience with her bimetallic union, and French public opinion decidedly inclined toward a gold standard. At the international conference of 1867 and in the chamber of commerce inquiry of 1868, the great majority had pronounced in favor of a gold standard; also, a committee of inquiry, who were sitting at the time the Franco-German war broke out, had proposed the transition to a gold standard by a vote of 17 to 6. Germany, therefore, had to reckon with the probability that France, as well as the other states comprised in the Latin Union, would, sooner or later, exchange their bimetallic for a gold standard. Thus, especially after Germany had come into the possession of five milliards by way of war indemnity, there was in Germany a general consensus of opinion that the only expedient measure would be a transition to a gold standard. A few theoreticians only spoke in favor of a bimetallic standard; commerce and industry were unanimously in favor of a gold standard.

(4) In the autumn of 1871, the project of a provisional coinage act was submitted to the federal council and the Imperial Diet. The deliberations were pushed forward, and in December, 1871, the act was promulgated. It authorized the coinage of imperial gold coins of 10 and 20 marks' value and the making of these coins a legal tender side by side with the silver coins hitherto in use in a proportion of 15½ to 1 as between silver and gold. The further coinage of silver was prohibited.

(5) This measure was followed by the coinage act of July, 1873, which ordered the gradual withdrawal from circulation of the old silver coinage, and the coining of silver token coins of the new system, while the amount of silver constituting a legal tender was limited to 20 marks. The coinage of gold for private account was authorized, and this provision was subsequently supplemented by the bank act, by which the duty was imposed on the Imperial Bank of buying any quantity of gold offered to it at the rate of 1,392 marks per pound.

ACCOMPLISHMENT OF THE MONETARY REFORM.

(6) When Germany decided to adopt a gold standard, she had a circulation of silver to the amount of about 1,580,000,000 marks. Of this amount, even after the adoption of the gold standard, from 400,000,000 to 450,000,000 marks could still be used as small change (10 marks per head of the population). There remained to withdraw from circulation the balance of over 1,100,000,000 marks to melt down and sell it against gold. Of course, this enormous quantity of silver could not be either withdrawn from circulation immediately or thrown all at once upon the market. On the contrary, this operation had to be divided over a number of years. The German sales of silver commenced in 1873, hesitatingly and cautiously, and steadily increased up to the year 1877.

(7) Meanwhile, the price of silver fell. Since about the end of the sixties, the demands for India had been steadily decreasing, and had finally fallen to one-third of the average for the years 1855 to 1865. Moreover, a number of countries effected changes in their monetary systems either simultaneously with, or immediately after, Germany. The Scandinavian kingdoms and the United States adopted a gold standard; the Netherlands discontinued the coining of silver, and the countries belonging to the Latin Union first limited their issue of silver coin and then discontinued it. This twofold cause of diminution of the demand coincided with an increase in the production of silver. These circumstances led to a considerable fall in the price of silver, and the melting down and sale of the German silver coin was thereby rendered unprofitable. In May, 1879, it became known that the German Government had discontinued its sales of silver, and since that time, they have not been resumed.

(8) The consequence of the cessation of the sales of silver is that, to this day, there are in circulation in Germany, besides the new silver token coins, about 400,000,000 marks in old silver thalers (a thaler is equivalent to 3 marks, or 71.4 cents), which still remain a legal tender to an unlimited amount. About half of this amount is always in the hands of the Imperial Bank, while the other half is in circulation. Hitherto, the Imperial Bank has never made use of its right to redeem its notes in silver thalers, but has always paid in gold when gold was demanded. In the bullion stock of the bank, there figures, side by side with the 200,000,000 marks in thalers, an amount of about 600,000,000 to 700,000,000 marks in gold. Altogether, Germany possesses, including the stock of uncoined gold in the bank cellars, a monetary stock of gold to the amount of about 2,700,000,000 marks. Under these circumstances, the 400,000,000 marks in thalers can not be held to endanger the German monetary system. Hence, notwithstanding the cessation of the sales of silver, the transition to a gold standard has been carried out with complete success.

BIMETALLISM IN GERMANY.

(9) The bimetallic movement did not originate on German soil, but was imported from abroad. Dr. Arendt, the leader of the bimetallic agitation, wrote on one occasion as follows: "Before the German Government, in May, 1879, suspended the sales of silver, the monetary-standard question was looked upon as disposed of in Germany." Germany was the only great power that did not participate in the Paris monetary conference of 1878.

(10) It was not until the Government showed signs of stopping on the road toward a complete carrying through of the gold standard that bimetallism succeed in gaining ground in Germany. About the end of the seventies, Mr. Cernuschi, a Frenchman, and Mr. Kelley, an American, traveled over Germany in order to agitate for bimetallism. Mr. Kardorff, a protectionist and agrarian, was the first representative of bimetallism in Germany, and up to the present day, he champions the cause of bimetallism. He was soon joined by Leuschner, director of the Mansfeld Copper Mining Association, which had been seriously affected by the fall of silver. Somewhat later, these gentlemen found a partisan of great dialectical ability and activity in the person of Dr. Arendt, who, since that time, has been the intellectual head of the bimetallic movement in Germany. At that time, that is to say, at the end of the seventies, the arguments of the German bimetallists against the gold standard were: (*a*) Either the sales of silver must be resumed and completely carried through or the gold standard must be abandoned and a bimetallic standard adopted; (*b*) through the fall of the price of silver, the German silver-mining industry has been injured, and, further, the German income from securities made out for an amount in silver (especially Austrian securities) has greatly fallen off; (*c*) a continued decrease of the production of gold, and hence a rise in the value of gold is imminent.

(11) A number of professors were inclined to favor bimetallism, for instance, Wagner, Schäffle, Lexis, Neuwirth, and, subsequently, Conrad. Great stress was laid upon the predictions of Professor Suess, of Vienna, that the gold mines of the world were nearly exhausted. When a demand for gold arose in consequence of the United States and Italy adopting cash payments in gold, and when, consequently, the great banks of Europe increased their rates of discount, these transient disturbances were represented as permanent, and it was asserted that the prophesied scarcity of gold had arrived. People spoke of "the folly of pulling up the gold blanket, which is too short for the bed," and of "paralyzing trade by high discounts."

(12) The arguments thus brought forward on the part of the bimetallists were soon proved to be fallacious. It appeared that the situation created with regard to the German monetary system through the cessation of the silver sales was not serious. The stock of thalers still in existence was not capable of unfavorably influencing the German money market. From the year 1883, the production of gold commenced to increase. The drain of gold to America ceased, and soon America commenced to send gold to Europe in considerable quantities, and, consequently, the rates of discount fell to a normal level. In short, facts afforded a striking refutation of the arguments advanced at that time by the bimetallists. But the bimetallists did not, for this reason, abandon their agitation. They soon availed themselves of the decline in the general level of prices in order to demonstrate thereby an alleged increase in the value of gold. The fall of the prices of agricultural products was attributed by them to the gold standard; and by holding out a prospect of an increase of prices, they endeavored to gain over to their side those interested in agriculture. By such an agitation, the peasantry, who could not possibly form an opinion of their own on the monetary-standard question, were stirred up against the gold standard. When, about the middle of the eighties, the Indian exportation of wheat increased very considerably, the bimetallists at once took advantage of this fact for their agitation. It was then that the assertion first cropped up that the depreciation of silver favored the exportation of grain from silver-using countries, that it was swamping Europe with cereals and thereby destroying home agriculture.

(13) The bimetallists upheld their new argument even when the Indian wheat exports, notwithstanding the continued depreciation of silver, ceased to make any further advance, and even when, at last, a distinct decline set in. When Russia, and, more recently, the Argentine Republic, appeared in the grain market as competitors, this, too, was laid to the charge of the gold standard and the silver depreciation, although these two countries do not possess a silver, but a paper, standard. In view of this ignorance of the most important facts, agitators had an easy task among the rural population. On the other hand, German bimetallists have not hitherto been able to secure any success among people concerned in industry and commerce. For years past, they have been untiring in prophesying the destruction of

German trade with silver-using countries, yet the exports to silver-using countries are steadily increasing, while the exports to gold-standard countries have somewhat declined. Accordingly, the entire mercantile community in the Hanseatic towns, which are chiefly interested in the trade with silver-using countries, adheres with full energy to the gold standard. Similarly, with none but most insignificant exceptions, the whole of the German chambers of commerce advocate the maintenance of the gold standard. Nor have bimetallists been more successful in their continued endeavors to gain over the working classes. They hold out to them a prospect of increased employment and of an improvement in their general condition, and have been asserting for about fifteen years past that the gold standard leads to a decline of wages. But German workingmen possess sufficient intelligence to see that during the twenty-five years of the existence of the German gold standard, wages have not only not declined, but have actually risen, and that, on the other hand, it is the workingmen, whose wages are very slow in accommodating themselves to the altered value of money, who would have to suffer most through a diminution of the purchasing power of money. Thus, the bimetallic movement has remained essentially confined, in Germany, to the agricultural classes.

MONETARY POLICY HITHERTO PURSUED BY THE GERMAN GOVERNMENT.

(14) The German Government has rarely assumed a position calculated to encourage bimetallists, though it is true that the Government has not always been uniformly firm in this respect. We have already mentioned that the German Government abstained from attending the Paris monetary conference of 1878. Prince Bismarck, Imperial Chancellor, caused the conference which was held in Paris in 1881 to be attended by two German delegates. But their proposals were so little of a nature to be considered concessions to bimetallism that they virtually tended toward the full carrying through of the German gold-standard system.

(15) Early in the eighties, the bimetallists repeatedly moved resolutions in the Reichstag, but the Government did not receive them in a friendly spirit. Gradually, however, the resistance on the part of the Government relaxed. In 1885, during the debate on the monetary question, the Government avoided taking either side, and a rumor was spread to the effect that Prince Bismarck was ready to change his monetary policy; consequently, the bimetallic agitation increased to fever heat. No less than 1,161 petitions, all identically worded, were submitted to the Reichstag, most of them being signed by agricultural associations.

(16) The Government now considered it advisable to give up their position of reserve. Quite unexpectedly, in January, 1886, Mr. Scholz, the Minister of Finance, rose in the Prussian Diet to give vent to a condemnation of the bimetallic agitation, and pronounced himself most decidedly in favor of the gold standard. As soon as the bimetallists had encountered this decided check on the part of the Government, their agitation fell off considerably. Besides, notwithstanding all predictions, the German monetary situation improved more and more; how much, is illustrated by the following figures: In 1880, the bullion stock of the German Imperial Bank was said to consist of 185,000,000 marks in gold and 380,000,000 marks in silver; at the end of 1894, the German Bank possessed 715,000,000 marks in gold and 300,000,000 marks only in silver. The number of adherents to the bimetallic party fell off visibly; and a number of professors who, about fifteen years previously, had inclined toward bimetallism, now sided in favor of the gold standard.

(17) The Government maintained their position even when, after the retirement of Bismarck, Caprivi conducted the policy of the Empire. It was not until the spring of 1894 that the new Chancellor made a concession which, in itself, was not prejudicial. His object was to break the resistance of the Agrarians to the conclusion of a commercial treaty with Russia, and he convoked the "silver commission" in order to gain over, by this concession in the field of monetary policy, a portion of his opponents in the domain of commercial policy. But the transactions of the "silver commission" had no practical results, and the German monetary policy continued in the same course as heretofore.

THE PRESENT SITUATION.

(18) After the retirement of Caprivi, Prince Hohenlohe came to the head of affairs, and the bimetallists made a fresh attempt. This new attack was made in the hope that something might be expected from the new Government, and it was hoped that a favorable vote might be obtained in the Reichstag. In fact, the majority of the Reichstag, on the 16th of February, 1895, voted in favor of a resolution requesting the Government to convoke an international monetary conference for the purpose of an international regulation of the monetary-standard question. The Reichstag did not vote in favor of bimetallism; on the contrary, the demand for bimetallism had been purposely eliminated from the resolution in order to secure for it a majority. On this occasion, the Imperial Chancellor made a declaration, holding out a remote prospect of negotiations with foreign Governments with a view to raising the price of silver.

(19) The bimetallists now used every means in order to urge the Government to convoke an international conference and adopt a double standard. When, during the last weeks of Lord Rosebery's Government, any discussions on the monetary question took place in the Prussian Diet, Dr. Arendt pointed to Mr. Balfour as the coming man, and asserted that very shortly, the English Government, aided by him and Mr. Chaplin, would take the lead in the bimetallic movement.

(20) The friends of a gold standard in Germany considered it necessary to oppose the bimetallic assault by an organized resistance. After the most important chambers of commerce had passed resolutions in favor of the gold standard, early in April of last year, a "Society for the Defence of the German Gold Standard" was founded, the committee of which comprised the leading manufacturers and commercial men, politicians, and savants. The president of the society is the former president of the Imperial Chancellor's office, Mr. Delbrück, and one of the members of the board is Dr. Ludwig Bamberger, who, with Mr. Delbrück, was the originator of the German gold standard. Professor Huber, of Stuttgart, edits the papers of the association.

(21) The activity of the society has not remained without influence on the position taken by the public press as well as by the German federal governments. When an inquiry was made by the Imperial Chancellor, not a single state pronounced in favor of bimetallism, while many decidedly sided against it. On the 8th of February of the present year, Prince Hohenlohe, the Imperial Chancellor, gave the official reply of the Bundesrath to the resolution of the 16th of February, 1895, which has been previously mentioned. Prince Hohenlohe declared that all the German governments had unanimously decided not to conform to the resolution of the Reichstag inviting them to convoke an international monetary conference. This declaration was expressed with some diplomatic reserve, in order to render it as palatable as possible to the Agrarian bimetallists; but the real and practical effect of it is to defeat the bimetallic movement in Germany.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *March 16, 1896.*

CURRENCY OF MOROCCO.

The market value of the silver currency of Morocco is so fluctuating and of such a complex character that it is almost impossible to comply with instructions regarding invoices, owing to the spurious and depreciated Spanish money dumped into Morocco, except in pesetas and centimos as now made out, and especially is this the case in the southern part of Morocco, and more particularly at Mogador, where there is a large and increasing export trade with the United States. In a late communication, the United States consular agent at that place, Mr. G. Broome, says:

> As I have recently reported, this district has become the sink for the base and worn-out silver coins, mostly of Spanish denomination, imported from the north in exchange for the best of the old coins.

There is no other currency than silver, which may be grouped under two heads, Spanish and Moorish, the former being much more largely in circulation than the latter and consisting mostly of pesetas. Next in volume is the contraband "Filipine" half dollar and peseta; next to that, the "Isabella" dollar, and then, the "Alphonso," the latter used only to pay customs dues on exports. Moorish coins are those minted for the Government some years ago in France, and contain a large percentage of alloy, and their actual value as silver is not known. Invoices of consignors to the United States are correctly made out at the market value of the merchandise shipped, but the invoices do not show in what coin the purchases were made, and, in consequence, the exact value of the merchandise can not be stated in the certified invoices in standard currency unless the peseta be taken as a standard.

The difficulty is that there is no standard of currency, the various coins of even the same denomination bearing different market values. For example, a person wanting to make a remittance to London would buy a bill of exchange on a consignment to New York or Philadelphia, for the value of which a draft would be made on London in pounds sterling, and if the coin paid was in "Alphonso" dollars, the drawer of the draft would receive 22 per cent; if paid for in pesetas with two or three holes in them, 40 to 42 per cent. Then, as regards Moorish coin, the current or market value differs materially from the Government value, which I suppose ought to be the standard of coin currency of the country of export. Custom-house dues are calculated at 40 okeas the dollar (3 okeas=2 American cents) in either Moorish or "Alphonso" coins, whereas the market value is about one-third the fixed Government value; that is to say, the Government issues its dollars at a nominal value of 125 okeas, but will only receive the same for duties at 40 okeas.

Some years ago, the late Sultan had $4,000,000 minted in France, but those coins contain a large percentage of alloy; consequently, they can not be shipped to Europe without a loss of at least 50 per cent.

The United States has proved to be a better market than Europe by from 10 to 15 per cent for the following products from Morocco, viz, goatskins, olive oil, almonds, beeswax, and gum sandarac. On imported articles of merchandise, nearly all of which come from England, France, and Germany, there is a profit of from 10 to 15 per cent over and above the cost of bills of exchange, thus enabling buyers of the said products from European markets to pay that much more than they are worth; indeed, they are almost compelled to do so on account of the impossibility of making specie remittances for imports. Numerous proclamations have been made by the Sultan to prevent the importation of "Filipine" coins, with the usual result of failure, and it is evident that some privileged parties have the monopoly, as they are more in evidence in southern Morocco than ever. These are Spanish coins, worth as silver about 29½ per cent in United States silver currency, and for reasons already explained, they will soon become the only coin in circulation. The only feasible and safe way to prevent this would be to induce the Moorish Government to supply the country with a silver coinage. This country has no national debt, and a loan could be secured on customs dues, as the last and only loan this Government had from England (in 1859) was effected. If a good silver currency could be secured, I am satisfied that trade with the United States would be largely increased.

J. JUDSON BARCLAY,
Consul-General.

TANGIER, *February 26, 1896.*

COMMERCE OF SPAIN IN 1895.

SPANISH CURRENCY.

Spanish statistics are stated in silver or its equivalent, gold being at a premium and constantly fluctuating. The highest premium on gold during the year 1895 was 21½ per cent; the lowest was 7 per cent. The average value of $1 (United States currency) during the last three years has been 6 silver pesetas in Spanish currency (16⅔ cents). Spain's exportations and importations will not be published in detail until November, 1896, but a general statement has just been made by the bureau of statistics at Madrid, and therefrom I have obtained the following information:

IMPORTS.

The value of the total imports of Spain during the years 1893, 1894, and 1895, was, respectively, $112,495,490, $118,685,459, and $114,450,134. The decrease in 1895 as compared with 1894 was due to a remarkable falling off in the imports of wheat, which amounted, in 1893, to $13,257,780; in 1894, to $11,328,683; while in 1895, they amounted to only $5,404,680. The decrease in the quantity imported from the United States is especially remarkable, as will be seen by the following statement of the wheat imports:

From—	1893.	1894.	1895.
	*Pesetas.**	*Pesetas.**	*Pesetas.**
United States	9,844,145	5,483,685	185,368
France	6,632,746	3,183,945	1,416,550
Russia	24,061,377	38,239,948	22,666,700
Turkey	10,383,091	2,837,004	3,167,714
Other countries	28,625,321	18,227,519	4,991,729
Total	79,546,680	67,972,101	32,428,061

*The silver peseta=16⅔ cents, according to the previous showing of Consul-General Bowen.

The importations of stone, minerals, crystal, and ceramics show only a slight decrease, viz, $12,005,221, $11,745,485, and $11,339,480 in 1893, 1894, and 1895, respectively. The principal article in this class is coal, the importations of which amounted to $6,989,263, $7,266,773, and $6,825,225, in 1893, 1894, and 1895, respectively. The importations of crude petroleum in 1893, 1894, and 1895, respectively, were $1,384,421, $954,468, and $1,009,491. The importations of metals varied but little, viz, $3,834,200, $4,073,010, and $3,420,315, in 1893, 1894, and 1895, respectively.

The importations of drugs increased slightly, viz, $8,780,914, $9,152,934, and $9,716,511, in 1893, 1894, and 1895, respectively.

The greater part of the cotton imported is from the United States, and the increase in the demand is quite marked, viz, $14,644,044, $15,252,725, and $16,301,730, in 1893, 1894, and 1895, respectively.

During the three years the importations of silk varied but little from $4,000,000; wool, $6,000,000; wood, $7,000,000; and paper, $1,500,000, per year.

The importations of animals and hides and skins amounted in 1893 to $6,177,163; in 1894, to $8,483,481; and in 1895, to $10,780,000.

The heavy duties on machinery, carriages, and boats affect the importations of these articles rather seriously, viz, $6,234,638, $5,830,000, and $5,250,000, for 1893, 1894, and 1895, respectively.

EXPORTS.

Spanish exports are less than the imports, viz:

Description.	1893.	1894.	1895.
Imports	$112,495,490	$118,685,459	$114,450,134
Exports	101,651,630	96,629,010	110,146,000
Excess of imports	10,843,860	22,056,449	4,304,134

The increase in exports is due chiefly to the foreign demand for silver bullion and money. Gold is practically out of circulation, and the gold reserve amounts to only $40,000,000, consequently the exportation of silver is a matter of concern, viz, $1,995,128, $580,000, and $6,934,840, in 1893, 1894, and 1895, respectively.

Spain is very rich in all kinds of metals used in manufactures, especially iron, copper, tin, quicksilver, and lead, and in 1895, she exported them to the amount of $13,000,000, which was a trifle more than the exports of 1894 and 1893.

During the three years the exports of the following articles varied little from the amounts given: Drugs, $3,750,000; wool, $3,000,000; silk, $800,000; paper, $1,800,000; wood, $5,000,000. There has been a considerable decrease in the exportations of cotton goods, owing principally to the Cuban war, viz, $1,060,610, $754,640, and $648,634, in 1893, 1894, and 1895, respectively.

Although Spain has not a sufficient quantity of hides for her own consumption, the foreign demand for them was so great in 1895 that she exported $400,000 worth, in addition to sheep and goat skins to the value of $700,000.

Few countries export less machinery than Spain, the exports in 1895 being valued at only $76,838; in 1894, at $100,000; and in 1893, at $154,445. Some excellent machines, however, are made in Spain and especially by the Compañia Maquinista, of Barcelona, which supplied the Government with machinery for their men-of-war, and is now constructing for the port of Barcelona a Stanfield dock of 6,000 tons.

The principal exports of Spain are wines and fruits. In 1895, the value of the ordinary wine exported was $13,723,000; of sherry and like wines, $2,759,000; and of heavy wines, $181,000. In 1894 and 1893, the exportations of the three classes were less by about $2,000,000. Formerly, the United States consumed much Spanish wine and fruit, but the American demand has been decreasing, owing to the fact that California and Florida are becoming more and more capable of supplying the home market.

Shipping.

Year.	Entered.			Cleared.		
	Number of ships.	Tonnage.	Merchandise.	Number of ships.	Tonnage.	Merchandise.
			Tons.			*Tons.*
1893	17,717	12,096,742	3,318,737	16,400	11,925,984	7,401,774
1894	17,676	12,728,222	3,325,260	17,268	12,963,800	7,745,229
1895	20,268	13,193,629	3,106,478	16,697	12,585,813	7,701,344

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *February 8, 1896.*

MALAGA'S TRADE WITH THE UNITED STATES.

EXPORTS TO THE UNITED STATES.

Regarding the exportation to the United States from this consular district for the year ended December 31, 1895, I have to report a slight increase in value over the year 1894, viz, $796,050.11 in 1894, against $1,029,272.94, an increase of $224,222.83. This increase is chiefly due to the larger exportation of grapes from Almeria and iron ore from Marbella, the former exceeding in value the exportation of 1894 by $152,430.41, while the iron ore shows an increase of $43,995.60. The actual increased value of the exportation from this port during the year just closed over that of 1894 is but $38,184.42.

Lemons.—The greater difference appears in the quantity of lemons shipped, there being an excess of 26,108 quarter boxes in 1895. The total number shipped in 1895 was 67,874 quarter boxes. The value of the lemons shipped in 1894 was $66,256.82, and in 1895, $165,823.60, an increase of $99,556.78. The increased shipment was no doubt owing to the short crop in Florida and the higher prices offered.

Almonds.—Exports of almonds fell off from 43,745 boxes in 1894 to 29,763 boxes in 1895, the difference in the declared value being $57,527.85 in favor of 1894.

Raisins.—The raisins shipped in 1894 (31,734 boxes) were valued at $92,141.90, against 31,646 boxes in 1895, valued at $83,846.85.

The acreage under grapes for raisins was about the same as in 1894. The phylloxera is still ravaging the muscatel vine, but the Riparia, or American, vine remains untouched.

Palm-leaf hats.—The exportation amounted in 1894 to 1,438 bales, valued at $103,935.58, and in 1895, to 1,273 bales, valued at $103,347.

The above mentioned are the chief articles of export from this port.

Wine.—Wine, though manufactured to quite an extent in this place, does not find its way to the United States, but rather to England, France, Germany, Norway and Sweden, and to some South American countries.

Olives.—A strong effort is being made on the part of producers of olives in this province and Granada to find a market for their product in the United States, as also for olive oil.

The following table shows the articles shipped in 1895 to the United States:

Articles.	Quantity.	Value.
Almonds...boxes	29,763	$156,171.38
Do...bags	270	
Brandy...cases	125	591.31
Chick-pease...bags	10	121.75
Canary seed...do	150	848.73
Garlic...bales	840	5,159.37
Lemons...boxes	67,874	165,823.60
Lead...pigs	1,633	5,449.82
Models, etc...cases	11	530.58
Olives...barrels	150	591.73
Olive oil...do	720	15,594.02
Oranges...boxes	1,000	2,745.68
Orange peel...bales	43	452.13
Pomegranates...cases	1,932	2,085.31
Palm-leaf hats...bales	1,273	103,347.00
Red pepper...cases	180	1,316.34
Raisins...boxes	31,646	83,846.85
Soap...do	77	155.36
Wine	...	6,816.57
Almonds and grapes*	...	426,895 41
Iron ore†...tons	20,675	50,630.00
Total	...	1,029,272.94

* From Almeria agency. † From Marbella agency.

EXPORTS TO COUNTRIES OTHER THAN THE UNITED STATES.

According to custom-house statistics, the total exportation to countries other than the United States for 1895 was as follows:

Articles.	Quantity.	Articles.	Quantity.
	Kilograms.		*Kilograms.*
Lemons	4,128,277	Chick-pease	1,856,465
Oranges	5,133,510	Pomegranates	1,441,497
Raisins	4,959,142	Figs	554,587
Grapes	184,014	Minerals	2,247,711
Wine	7,176,729	Lead	25,227,264
Manufactured cotton	169,068	Almonds	660,968
Oil	1,531,406		

IMPORTS FROM THE UNITED STATES.

The only articles recorded in the custom-house as being brought from the United States to this port are wheat, cotton, staves, and petroleum. During the year 1895, however, partly on account of the additional duty imposed upon foreign wheat at the beginning of the year, but very little was imported, viz, 29,000 kilograms from the United States and 42,920 kilograms from England, while in 1894, under the lower rate of duty, the import at this port was 4,205,222 kilograms from the United States and a little more than this quantity from England and France.

The duty in force on wheat December 31, 1895, was 10½ pesetas per 100 kilograms; on flour, 17.32 pesetas per 100 kilograms.

The importation of petroleum was also less for a like reason—higher duties. In 1894, the imports from the United States amounted to 1,424,087 kilograms, against 473,815 kilograms in 1895. Nearly one-tenth less than this figure is given as imported from all other countries.

Cotton also suffered a diminished importation from the United States, being but 1,827,316 kilograms in 1895, against 2,422,290 kilograms in 1894, while but a trifle was imported from England and France.

Staves also fell off from 344,502 kilograms imported from the United States in 1894 to 262,413 kilograms in 1895, while only 35,927 kilograms came from England.

The hard times throughout the district will doubtless account somewhat for the diminished importation of some of the articles. The small importation of petroleum, as well as of wheat—though the crop of wheat was good last year—are, however, chiefly due to the increased rate of duty levied in February, 1895, on these articles. But whether the times are good or bad throughout this country, whether money is abundant or scarce among the people, as I have stated in former reports, our manufacturers and merchants can not reasonably expect or hope to have any trade of importance with the people of this country until such time as our Government negotiates a treaty with Spain which will give us at least an equal chance with the favored nations of placing our products and manufactures on this market, and, in addition, direct steam communication and direct banking facilities. Of course, if we have sufficient trade there will be no lack of direct steamers—if not American, foreign-built ships—that will do the carrying business. What we want is the trade. To have the business transacted directly with New York or other ports in the United States, instead of through England, will save time and money.

DAVID N. BURKE,
Consul.

MALAGA, *January 18, 1896.*

TRADE OF ALMERIA.

Although the production of grapes in this province ought to increase every year on account of the new and large plantations which are continually made, this year's crop has been about the same as that of last year. The total quantity shipped amounted to 690,113 barrels and 3,950 half barrels, as follows:

Exported to—	Barrels.	Half barrels.
Liverpool	259,923	2,547
Glasgow	51,735	32
London	161,502	285
Manchester	4,985	....
Hull	30,179	191
Bristol	12,499	36
Russia, Sweden, Germany, etc	6,559	108
New York	143,284	505
Boston	16,721	177
Philadelphia	2,726	69
Total	690,113	3,950

Although the crop was no larger than that of 1894, a larger quantity has been shipped to the United States, owing to the fact that although the first prices obtained in Great Britain were satisfactory, they fell to such an extent that shippers decided to throw the fruit upon the American markets, where, it appears, the prices in general, if not altogether satisfactory, were at least better than those realized in Great Britain.

Unfortunately, the vines still suffer from the phylloxera, and for this reason the production does not increase in proportion to the new vineyards which are being yearly set out.

An effective remedy to destroy the pest has not yet been found, and, in the meantime, it is extending more and more. Many of the farmers are now substituting American for the diseased vines.

Although the grapes of this district, as a rule, possess good keeping qualities, it appears that this characteristic has suffered to a certain extent through the phylloxera and other diseases.

Of other fruits, nuts, etc., there were shipped from this port, in 1895: Almonds, 10,355 boxes to Great Britain and 27 boxes to New York; oranges, 14,459 boxes to Great Britain; and pomegranates, 327 boxes to Great Britain.

Of esparto grass, 13,547 tons have been exported to Great Britain for paper manufacturing.

Iron ore.—Through the failure of an English firm at the beginning of the year 1895, the work in the Sierra Alhamilla, Alfaro, and Herrerias mines, situated near Almeria, has been stopped, and only 5,850 tons of iron ore have been shipped to Great Britain during the year. It is, however, reported that arrangements are being made to commence working these mines again very shortly.

Only 1,712 tons of calamine have been shipped during this year to Antwerp, presumably for transshipment to Germany.

IMPORTS.

Coal.—There were imported during 1895, 4,242 tons from Newcastle and 2,500 tons from Cardiff, for gas works and foundries.

Oak staves.—During 1895 there were imported 292,195 oak staves from New Orleans for the manufacture of grape barrels. The stock here at present is very small, but further supplies are expected to arrive shortly from New Orleans to meet the requirements.

From Italy, 7,800 bundles of wooden hoops (200 in each bundle) were imported. The balance required for the manufacture of grape barrels was drawn from the north of Spain.

Timber.—The import of timber was as follows: From Trinidad, 1,637 cubic meters; from Sweden, 1,291 cubic meters; in all, 2,928 cubic meters.

RAILWAYS.

A part of the railway between Almeria and Linares, which is being built, was finished from Almeria to Guadix, 100 kilometers, and opened for traffic some time ago.

H. F. FISCHER,
Consular Agent.

ALMERIA MALAGA, *January 1, 1896.*

SPANISH FRUITS AND NUTS.

The climate and soil of Spain favor, to a remarkable degree, the cultivation of fruits and nuts, which are produced and exported in large quantities, and by many are considered to have unrivaled flavor.

Grapes and raisins.—The most valuable product of the Spanish soil is the grapevine, which furnishes fine fruit, not only for immediate consumption, but for preserves, and yields many excellent kinds of wine and superior qualities of alcohol, vinegar, and tartar. Of all dried fruit, raisins have, from the earliest times, been the most popular, and have even served as a medium of exchange. The raisins of Spain have a fame that dates back to the earliest days of her commerce. The best-known kinds are the Pasas de Denia, of which there are two varieties, and the Pasas de Malaga, of which there are three varieties—La Moscatel, La Flor, and El Sol. There is another variety, called Pasas de Legia, which is produced by treating the grape with a liquid composed of water, ashes, and oil. In 1894, Spain exported 32,425,512 kilograms (71,498,249 pounds) of raisins, valued at $3,242,551, and 19,763,495 kilograms (43,578,506 pounds) of grapes, valued at $1,646,957, principally to Great Britain and the United States—to Great Britain, 17,847,000 kilograms of raisins and 15,064,000 kilograms of grapes; to United States, 5,441,000 kilograms of raisins and 2,240,000 kilograms of grapes.

Oranges.—The best Spanish oranges are those grown in Majorca, Valencia, Seville, and Malaga. In 1894, the exportations of this fruit amounted to 160,340,837 kilograms (354,645,045 pounds), valued at $4,275,755, principally to Great Britain, France, Germany, and Belgium, viz: To Great Britain, 100,846,289 kilograms; France, 40,941,260 kilograms; Germany, 5,643,447 kilograms; Belgium, 3,041,306 kilograms; United States, 86,000 kilograms.

Apples.—Spanish apples are of many kinds; they are grown principally in Andalusia, Aragon, in the Asturias, and Provincias Vascongadas. The best-known varieties are those called the Balbonis, Balsain, Oro, Coralino, Bilbao, Ripanaldas, Vizcainas, Castellanas, Romana, Encarnadas, Violadas, Doradas, Anis, Paloma, Api, Rosa, Tostada, and Helada. In the Asturias and Las Vascongadas and in Santander, cider is made in large quantities, but it is mostly consumed where made. It is not of a good enough quality to export or bring into competition with the cider of other countries.

Pears.—The supply of pears, owing to the great variety produced, never fails in Spain during the entire year. Various liquids are made of pears by the Spaniards, and with successful results. These liquids include pear vinegar, brandy, and cider, and material to mix with white wines.

Melons.—The melons of Spain merit all the praise they receive, and that is great. Some of the best are produced in Valencia and are exported in large numbers. The people of Barcelona are well supplied with them from September until March, and they may even be had later and at very reasonable prices.

Peaches.—Spain acknowledges that the United States, France, and Italy produce better peaches than she does, but the Spanish peaches are, nevertheless, not only good when preserved, but many of them are excellent when fresh. The Parvias of Murcia, Andalusia, and Almeria are considered the most succulent kind, but, as a matter of fact, they are rather hard.

Pomegranates.—This kind of fruit was brought from Africa and acclimated in Spain in times too remote to be dated with accuracy. The favorite varieties are those of Carcagente and Jativa and the so-called Ciñuelas. They are cultivated especially in Almeria, Murcia, Orihuela, Valencia, Castellon, and Tortosa. In 1894, the exports amounted to 9,588,735 kilograms (21,142,775 pounds), valued at $101,000, viz: To Great Britain, 2,227,104 kilograms; France, 1,282,162 kilograms; United States, 42,475 kilograms.

Figs.—Figs grow in all parts of Spain, but they thrive best in Alicante, Castellon de la Plana, Aragon, Catalonia, Malaga, Valencia, and Majorca. The exportation in 1894 amounted to 4,156,487 kilograms (9,165,054 pounds), valued at about $200,000. France, Denmark, Cuba, and Great Britain were the largest consumers.

Chestnuts.—Chestnuts abound principally in Catalonia, Vizcaya, Estremadura, and the Asturias, but they are not of a superior quality, and are not exported to any great extent. They are fed to cattle, as they are fattening.

Walnuts.—These are abundant in Cordova, Malaga, Leon, Huesca, Oviedo, and along the whole Cantabrian coast. In 1894, the exports amounted to 81,217 kilograms (178,678 pounds), valued at $4,600.

Filberts.—Tarragona is the land of filberts, and most of them find their way to England, where they bring 35s. ($7.83) per 50 kilograms (110 pounds), as against 25s. ($6.08) for the same quantity produced in Sicily or Turkey. The exports of filberts in 1894 amounted to 6,900,413 kilograms (15,180,919 pounds), valued at $460,000. England consumed of that amount 6,064,266 kilograms.

Almonds.—Nearly every known kind of almond grows in Spain. The Spaniards divide them into two general classes—the sweet (almendras dulces) and the bitter (almendras amargas). The former are cultivated especially in Alicante, and are of five varieties—Pestañeta, Bale, Blancal, Mollar, and Comun; the latter are produced in Tarragona, Malaga, and Majorca. Perhaps, the best of Spanish almonds are those of Malaga, which are almost cylindrical in shape, and have a very fine flavor. The exportation of almonds during 1894 was as follows: In shells, 1,435,855 kilograms (3,158,881 pounds), valued at $239,300; without shells, 3,475,082 kilograms (7,645,180 pounds), valued at $1,245,000. The principal markets for Spanish almonds are Great Britain, France, and the United States.

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *March 2, 1896.*

PERUVIAN SALT MONOPOLY.

[Translation of decree.—Transmitted, under date of January 18, 1896, by Minister McKenzie, of Lima.]

The raising of the necessary funds for the ransom of the Provinces of Tacna and Arica being urgent, the Congress of Peru has passed the following law:

ARTICLE 1. Salt is declared a monopoly throughout the territory of the Republic, and, consequently, the importation and exportation of this article are prohibited from the date of the promulgation of this law to everybody excepting the State.

ART. 2. Neither will the sale of salt for home consumption be permitted to anybody but the State from the moment the offices referred to in article 5 are established.

ART. 3. After the promulgation of this law, no salt mines, salt-forming lands, salt deposits, or salt-water wells can be taken up (claimed) within the territory of Peru.

ART. 4. The State will purchase from the owners of salt works in operation the produce yielded by the latter at prices to be opportunely fixed by a special decree, on the basis of up to 20 per cent advance on the prime cost as a profit to be allowed to the said owners.

ART. 5. The State will sell both the salt intended for home consumption and that intended for exportation, and will establish the respective offices in all the departmental and provincial capitals and such other places as it may deem convenient.

ART. 6. The selling prices of salt will be fixed by the Executive power, which will consider such industries as may be affected by the impost and are deserving of State protection, as also the cost of transport from the producing to the consuming districts.

ART. 7. The State will pay to such corporations as are actually deriving an income from salt-producing lands a sum equal to that at present enjoyed by them, always providing they continue working the same.

ART. 8. It will also make equitable arrangements for the indemnifying of leaseholders of salt-producing lands for the loss of profits during the term of their respective contracts up to 20 per cent of the rents paid by them, unless they elect to continue working the same for their own account and sell the yield to the State on the terms fixed by article 4.

ART. 9. The Executive power will establish the respective rules and regulations for the purpose of assuring and watching over the carrying out of this law. To this end, it is authorized to impose fines up to 20 per cent per kilogram on all salt taken from delinquents, in addition to the confiscation of the same, unless the guilty party or parties are relieved from the criminal responsibility incurred by them on account of the contraband trade in which they are engaged.

ART. 10. The Government will opportunely order such measures to be taken as shall compel holders of salt to present an exact inventory of their stocks of both native and foreign salt stored in their depots, warehouses, and places of sale. These stocks will be bought by the State for cash, at an advance of 10 per cent upon the cost to the holder. The Government will also purchase salt in transit and intended for importation, as also that which, by virtue of contracts, is intended for exportation, on the same terms as above stated.

ART. 11. If, in the opinion of the Government, the establishing of the monopoly should present difficulties, this law authorizes it to establish a salt tax, both on salt consumed in the country and on salt intended for exportation, to which end it may establish the necessary regulations.

ART. 12. The Executive will give an account of the use made by it of this authorization before the next ordinary legislature, presenting a special and detailed memorial of everything relating to this branch, and if, by virtue of the establishing of the monopoly, a contract relating to the same be made, it can not be extended over a term exceeding two years, dating from January 1, 1896. Neither will it be permitted to auction the administration of the tax.

ART. 13. The yield of the monopoly or tax created by this law shall be solely and exclusively devoted to the ransom of Tacna and Arica.

SUGAR INDUSTRY OF PERU.*

INTRODUCTORY REMARKS.

I have the honor to report that there was recently published, by the Government printing office at Lima, a very interesting and instructive pamphlet on the sugar industry of Peru from 1550 to 1895. The author is Señor Don Alejandro Garland, a writer and compiler of deservedly high reputation for accuracy and learning.

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*NOTE BY THE DEPARTMENT.—In the reductions—made in the Department—throughout this report from Peruvian to United States currency, the sol has been estimated at 46 cents, that being its average value, according to the United States Treasury valuations, for 1894, the year embraced in Consul Jastremski's report.

The sugar industry is considered the most important in Peru. Were it developed to the extent that the capabilities of the country admit, this industry would vastly increase the wealth, as well as the importance, of the foreign commerce of the Republic.

Sugar is one of the leading imports of the United States, and the manufacture of improved machinery for making sugar is an important and remunerative branch of its industries. Obviously, this subject must be interesting to many of our people; consequently, I have deemed it useful to translate copiously from Mr. Garland's work and compose, in as condensed a form as the matter would permit, the following report:

HISTORY OF THE INDUSTRY.

The sugar cane originated in China and India and was introduced into Syria and Egypt, and thence to the rest of Africa. About the middle of the twelfth century, the Arabs, having acquired the secret of crystallizing sugar, inaugurated cane culture in the islands of the Mediterranean, and, later, in the south of Spain, where it attained great development during Moorish domination. In the fifteenth century, cane culture was begun in the Canaries. At the beginning of the following century it was extended to Brazil, Santo Domingo, and Cuba; thence to Mexico and the rest of Spanish America. The first cane planted in Peru came from Mexico. The first sugar haciendas appeared at Huanuco, and soon after at Piura, where cane culture was rapidly extended. The product was gradually exported to Guayaquil, Chile, and Buenos Ayres, when the increasing demand led the planters to introduce slave labor for its production, which, three centuries later, was followed by the importation of Chinese labor.

The first lot of African slaves was brought to Peru in 1529; the second, in 1555. At the end of the sixteenth century, their number in Peru was estimated at 20,000, and in 1795, 40,366, distributed as follows: Lima, 29,763; Trujillo, 4,724; Arequipa, 5,258; Tarma, 236; Huancavelica, 41; Guamanga (Ayacucho), 30; Cuzco, 284. A few were brought to Peru during the first years of the present century, and, in 1817, the importation of African slaves was prohibited by decree of Ferdinand VII. The total value of the slaves approximated 15,000,000 pesos.

In 1835, the old commercial house of Gibbs made the first exportation of sugar to Europe, from the port of Cerro Azul, in the brig *Pacifico*, of 280 tons.

Under the law of November 17, 1849, giving a premium of 30 pesos per immigrant when the number exceeded fifty, 320 Irish and 1,096 Germans were brought to Peru to cultivate the cane. In 1863, 740 Polynesians were imported for the same purpose. The latter soon perished, and not more than 10 are now to be found in Peru. On October 15, 1849, the Danish bark *Federico Guillermo* landed the first lot of coolies (75). From July, 1853, to December 21, 1859, no less than 10,000 coolies were imported, and from 1860 to 1874, 77,343 more were landed. They were under contract to work for eight years, and to receive 4 soles per month, with rations of rice, clothing, etc. They were to work twelve hours per day. Eight hours now constitute a day's labor, at the rate of 65 centavos, equivalent to about 33 cents in gold.

Supported by this reliable labor, the sugar industry made rapid progress. In 1861, the introduction of improved machinery began, the first appearing in the haciendas of Caudevilla, Huando, and others. Banks were organized to supply funds to the haciendas, and there soon resulted an exportation approximating 2,000,000 quintals of sugar, which, valued at 25s. per quintal, yielded a sum of £2,500,000 ($12,165,000) annually. The debt bearing upon the sugar industry in 1875 was little less than 30,000,000 soles,* equivalent to £5,000,000 ($24,330,000). Numerous unproductive improvements contributed to create this heavy debt, which grew more burdensome from accumulating interest. The financial crisis in 1875 not only deprived the haciendas of the bank facilities they were receiving, but the banks pressed the payment of the funds due them. The price of sugar began to decline in Liverpool, and lands that had yielded an average of 500 quintals per fanegada (about 6,500 pounds per acre) gave less for want of fertilizing. Chinese labor, also, had decreased, until, in 1876, it did not exceed 48,000, including free and contract labor. In 1879, the disastrous war with Chile came to augment the existing difficulties. Many fields were abandoned, and, at its close, the exportation had declined 50 per cent.

The commercial history of Peru shows no more disastrous liquidations than were made at this time of the liberal loans which had been extended to the sugar industry. Not more than 33 per cent of the original amount was realized—the loss being 20,000,000 soles.† Commercial firms and banks of loans and discounts failed and great losses were sustained by individuals. So widespread was the injury sustained that it will be years ere capitalists will again extend financial facilities to the sugar planters.

Following the peace with Chile, in 1883, and the evacuation of the national territory by the Chilean forces came another period of trial for the sugar planters.

The coin had left the country, the contracts with the Chinese laborers had expired, the price of sugar had fallen to 23s. per quintal (101.61 pounds), and there were no banks of loans and discounts nor commercial firms to advance funds to the planters at a time when they needed them most to repair machinery and make new contracts with the free laborers.

The scarcity of labor has been sorely felt, and speculators have organized laborers in bands, for whom they exact the tenth of their daily wages. The plantations situated near the sierras have, however, made contracts with the Indians to work during three or four months consecutively for a moderate price. The help derived from this source has been of importance. Unfortunately, the ignorance of this class, their intemperance, and the neglect of sanitation, aggravated by insufficient shelter on the haciendas, tend to operate against this labor.

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* On January 1, 1875, the silver sol was valued at 91.8 cents and on January 1, 1896, at 41.9 cents.

† In 1879, the sol was valued at 93½ cents.

These conditions have led the planters to adopt more economical methods to decrease the cost of production. Improved machinery, portable and other tramways, etc., have been introduced. Plantations have been grouped, to bring them under a single administration and to work them with a single set of machinery.

On this principle, for example, three great companies for the production of sugar have been formed in the valley of Chicama. These are the Cartavio, Casa Grande, and Roma, the first English, the second German, and the third Italian. These companies produce 65 per cent (12,735,000 kilograms=28,075,581 pounds) of the total yield of the valley, which exports the greatest quantity of sugar.

While this system of concentration has the effect of diminishing the participation of the Peruvian element in the sugar industry, yet it is removing the difficulties operating against it and promoting its prosperity.

Great benefits to the country, and to individuals likewise, are flowing from the erection, at various points, of central mills, operated with perfect and complete machinery, such as the one, for example, which is conducted by the Sugar Industrial Company, of Puenta Piedra, which was established in 1894 in the valley of Carabaillo, near the Puenta Piedra station of the Ancon Railroad.

Owing to these changed methods, the sugar industry may now be said to be convalescing.

STATISTICS OF THE SUGAR INDUSTRY.

Coast region.—Cane culture extends along the entire coast, from the third to the eighteenth degree of latitude. La Noria, on the Tumbes River, in the Department of Piura, is the northernmost hacienda. It produces 125,000 kilograms (275,575 pounds) of sugar and a great quantity of spirits annually. Next, are the haciendas of Tina and Anchalay, in the province of Ayabaca, on the left bank of the Marcara River, which is the boundary with Ecuador. They make but little sugar, the output being "chancaca,"* or concrete. The same may be said of the haciendas of Curilcas, Cachaco, and San Pablo. The quantity of sugar annually produced by these five haciendas may be estimated at 100,000 kilograms (220,460 pounds).

In the districts of Frias, Santo Domingo, and Ayabaca, where property is greatly subdivided, there are numerous "chacaritas" (small farms) where the juice is made into spirits.

In the province of Huancabamba, the haciendas of San Antonio, Huarimal, and Tumas each make about 25,000 kilograms (55,115 pounds) of chancaca annually. The annual production of sugar and chancaca of the Department of Piura may be set down at 250,000 kilograms (551,150 pounds) annually.

In the Department of Lambayeque, are the valleys of Chiclayo and Lambayeque, where are situated the haciendas of Pomalca, Pucala, Tuman, Patapo, and Almendral, producing, respectively, in sugar, 1,500,000, 255,000, 2,000,000, 1,300,000, and 350,000 kilograms (3,306,800, 551,100, 4,409,200,

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*Refuse left in boiler.

2,864,980, and 771,530 pounds). Besides, in the districts of Chiclayo, Monsefu, and Reque, which are divided into small tracts, there are numerous cane fields, grinding cane on the primitive vertical mills (trapiches) worked by animals. Chancaca is the chief product of these places and it is roughly estimated at 1,000,000 kilograms (2,204,600 pounds) annually. The cultivation of the cane has been abandoned on the haciendas of El Combo and Mayascon, as well as on the lands adjacent to Lambayeque. There is but one sugar hacienda in the adjacent valley of Zana, the magnificent hacienda of Cayalto, yielding 3,350,000 kilograms (7,385,410 pounds). Summing up these figures, it will be seen that the rich Department of Lambayeque produces 10,000,000 kilograms (22,046,000 pounds).

Next, is the Department of La Libertad, which is second only to the Department of Lima in sugar production.

The province of Pacasmayo has the hacienda of Lurifico, which, though it is equipped with powerful machinery and grinds the cane of numerous neighbors, does not produce more than 2,000,000 kilograms (4,409,200 pounds) annually. The haciendas of Chafan Grande, Chafan Chico, Faclo Grande, Ventaron, Laguna, Tolon, and Buenos Ayres produce only chancaca for local consumption and to make "chicha" (a native beverage), also white chancaca for exportation to Chile. There are also a number of small farms using the trapiche. The total yield of all these does not exceed 750,000 kilograms, making a total of 2,750,000 (6,072,650 pounds) for the entire province.

The province of Trujillo, where the famous valleys of Chicama, Santa Catalina, etc., are situated, contains the principal sugar-producing center. Its production last year was as follows:

Haciendas.	Sugar.	Concrete.
	*Kilograms.**	*Kilograms.**
Pampas	136,000	
Sausal, Gasnape	1,600,000	
San Antonio	106,000	
Facala	320,000	
Casa Grande, Lache, etc	3,135,000	
Vinita	550,000	
San Jacinto		515,000
Tulape, Cepeda, etc	5,300,000	
Chicamita	1,360,000	
Cartavio	2,700,000	
Chiquitoy	2,100,000	
Nepen		35,000
Chimo		30,500
Pampas de Vintura		150,000
Sacachique		11,000
Laredo	1,400,000	
Banaza		64,000
Santo Domingo		38,000
Inculinamo		16,500
Sinluco		14,500
Total..	18,707,000	864,500
Total in pounds	41,241,452	1,421,967

* 1 kilogram=2.246 pounds.

Considering that several of these haciendas produce some chancaca, the total production of the Department is scarcely under 22,750,000 kilograms (50,154,650 pounds).

In the Department of Ancachs and valley of Santa, the hacienda of Vinzes produces 1,200,000 kilograms (2,645,520 pounds), and that of Suchiman 750,000 kilograms (1,653,550 pounds). The fine hacienda of Puente, one of the most valuable in Peru, with machinery capable of producing 10,000 kilograms (22,046 pounds) per day, and very fertile lands, does not now produce a pound of sugar. There are but two haciendas in the valley of Nepena—San Jacinto, producing 1,500,000 kilograms (3,306,900 pounds), and San José, which still uses the trapiche, producing 750,000 kilograms (1,653,500 pounds). The total yield of the Department is, therefore, less than 4,200,000 kilograms (9,259,320 pounds).

The facilities and advantages afforded by the capital have given to the Department of Lima first place in the production of sugar, as is shown in the following table:

Provinces.	Haciendas.	Sugar.	Concrete.
Chancay.		*Kilograms.*	*Kilograms.*
Valley of Patavilca	Paramonga	3,000,000	
	Galpon		200,000
	Carreteria		250,000
	Huayto	1,800,000	
Valley of Barranca	Arguay		50,000
Valley of Supe	San Nicolas	3,850,000	
Valley of Huaura	Ingenio	400,000	
	Humaya	1,850,000	
	Andahuasi	250,000	
Valley of Chancay	Huando	500,000	
	Palpa	800,000	
	La Huaca		70,000
	Huayan		80,000
Total, province of Chancay		12,450,000	750,000
Lima.			
Valley of Lima	Caudivilla, Punchauca, Huacoy, Pampa Libre, and Gallinazos.	2,000,000	
	Chacra Grande, La Molina, Pueblo Viejo.	1,000,000	
Valley of Carabayllo	Chacarilla	150,000	
	San Lorenzo	600,000	
	San Juan de Dios	160,000	
	Tamboinga	300,000	
	Chacra Cerro	1,000,000	
	Pro	785,000	
	Infantas	350,000	
	Chuquitanta	850,000	
	Naranjal, La Granja, Aznapuquio	1,000,000	
Valley of Bocanegra	San Augustin	780,000	
	Santa Rosa	325,000	
Valley of La Legua and Magdalena	Maranga	200,000	
	Various	270,000	
Valley of Luringancho	Huachipa	325,000	
Valley of Ate Bajo	Monte Rico	850,000	
	La Molina	750,000	
	Various	400,000	

Production of sugar in the Department of Lima—Continued.

Provinces.	Haciendas.	Sugar.	Concrete.
Lima—Continued.		*Kilograms.*	*Kilograms.*
Valley of Ate Alto	La Estrella	950,000	....
	Pariache	100,000	....
	Carapongo	125,000	....
Valley of Surco	San Juan	250,000	....
	Villa	250,000	....
Total, province of Lima	....	13,770,000	....
Canete.			
Valley of Canete	Casa Blanca, Santa Barbara, and various, including Montalvan.	3,000,000	....
	Arona	1,000,000	....
	Gomez	200,000	....
Total, province of Canete	....	4,200,000	....
Total, Department of Lima	....	30,420,000	750,000

RÉSUMÉ.

Provinces.	Sugar.		Concrete.	
	Kilograms.	*Pounds.*	*Kilograms.*	*Pounds.*
Chancay	12,450,000	27,447,270	750,000	1,653,500
Lima	13,770,000	30,357,343	....	....
Canete	4,200,000	9,259,320	....	....
Total	30,420,000	67,063,933	750,000	1,653,500

The valleys of Chincha, Laran, and San José, in the Department of Ica, produce each about 750,000 kilograms (1,653,550 pounds), and in the valleys of Pisco and Condor, same Department, the hacienda Caucato produces about 900,000 kilograms (1,985,140 pounds). The hacienda Trapiche makes about 50,000 kilograms (110,230 pounds) of chancaca. The scarcity of water prevents the cultivation of the cane in the rest of the Department, whose total production approximates 2,700,000 kilograms (5,952,420 pounds.)

In the Department of Arequipa, in the valley of Acari, the haciendas of Chocavento, Collona, and Amato produce 350,000 kilograms (771,610 pounds). In the valley of Camana, the haciendas of San Gregorio, Del Medio, Huarangal, Abajo, Crucero Cardo, and Pucchung produce in all about 250,000 kilograms (551,150 pounds) of chancaca, principally for export to Chile. The valley of Majes also produces some sugar and chancaca, the principal haciendas being Cantas, Revilla, and Querulpa. Some sugar and chancaca is made in the province of Castilla, Cantas being the most important hacienda. The beautiful valley of Tambo has acquired some importance in cane culture, and the haciendas of Caraquero, Chucorapi, and Pampa Blanca have introduced modern apparatus. The total of chancaca and sugar produced in this valley is 780,000 kilograms (1,719,648 pounds).

In the Department of Moquegua, only the hacienda of Loredo cultivates cane. It makes 10,000 kilograms (22,046 pounds) of chancaca, the rest of the valley of Ilo being devoted to olive culture.

In the Department of Tacna, there are two small haciendas, Camiara and Coailata, in the valley of Locumba, making 45,000 kilograms (992,070 pounds) of chancaca. The hacienda Tomasiri, in the valley of Sama, is the southernmost sugar hacienda in the Republic. It has a complete set of machinery to make granulated sugar and produces about 200,000 kilograms, and 250,000 kilograms (551,220 pounds) is the total made in the Department. It is mostly exported to Bolivia. The rest of the juice is converted into spirits.

The production of sugar, concrete, and chancaca in the coast region sums up as follows:

Department.	Quantity.	
	Kilograms.	*Pounds.*
Piura	300,000	661,380
Lambayeque	10,000,000	22,046,000
La Libertad	22,750,000	50,154,650
Ancachs	4,250,000	9,369,550
Lima	31,000,000	68,342,600
Ica	2,700,000	5,952,420
Arequipa	1,400,000	3,086,440
Moquegua	10,000	22,046
Tacna	250,000	551,150
Total	72,660,000	160,186,236

From the data obtained, the average yield of sugar from plant cane and stubble may be put down at 5,000 kilograms (11,023 pounds) per hectare (2.471 acres).

As the total annual production rises to 72,660,000 kilograms, it follows that about 14,400 hectares (35,582 acres) of plant and stubble cane is ground annually. But as it takes from eighteen to twenty-two months for cane to mature, the total area of growing cane may be put down at 36,000 hectares (88,956 acres).

Every hacienda sets apart from 20 to 25 per cent of the lands for pasturage. This would give a total of 45,000 hectares (111,155 acres) devoted to the sugar industry on the coast of Peru.

The number of sugar-making outfits in operation is sixty-two. On the basis of twelve hours' work per day, they could easily turn out 85,000,000 kilograms (187,391,000 pounds) in lieu of their present output, 72,660,000 kilograms (160,186,236 pounds). The outfits for concrete and chancaca number twenty-one. There are, in addition, some small old-fashioned outfits on the purgery system.

The cost of a complete outfit for the manufacture of sugar, including stills, buildings, etc., capable of producing in ten or twelve hours 5,000 kilograms (110,230 pounds), may be set down at £20,000 ($97,320.)

On the average of 80 soles per hectare ($36.80 per 2.471 acres), the lands (72,000 hectares=177,912 acres) may be valued at 5,750,000 soles ($2,645,000). Computing the lands in cane at 200 soles ($92) per hectare, the 36,000 hectares would foot up to 7,200,000 soles, and the 9,000 hectares (90,956 acres) in pasturage, at 50 soles ($23) per hectare, 450,000 soles ($207,000).

The value of other property, comprising dwellings and dependencies, irrigating canals, etc., and of the portable tramways, having a total length of 350 kilometers (202 miles), with locomotives, cars, etc., may be estimated at 5,500,000 soles ($2,530,000).

Capital invested in the sugar industry in the coast region.

Description.	Capital.	
	Soles.	
Total lands (72,000 hectares)	5,750,000	$2,645,000
Machinery	13,000,000	5,980,000
Lands in cane (36,000 hectares)	7,200,000	3,312,000
Pasturage (9,000 hectares)	450,000	207,000
Miscellaneous property	5,500,000	2,530,000
Total	31,900,000	14,674,000

Considering that the planter recovers at the end of every month from the sale of the products a part of the expenses incurred, the working capital may be estimated at 2,500,000 soles ($1,150,000), 40 per cent of which is in active circulation, the remainder held (on the basis of 5 soles ($2.30) per peon), for animals, sacks, food, and sundries. This, added to the above tabulated sum, brings the total capital invested to 34,400,000 soles ($15,824,000).

Allowing one peon for the cultivation of 2 hectares (4.94 acres) and a little less than five peons for 3 fanegadas, the total number of peons employed is not under 22,500. As their daily wages average 65 centavos (about 33 cents in gold), without board, the daily outlay for wages is 16,575 soles, or about 5,000,000 soles ($2,300,000) per year of three hundred working days.

The total number of employees in the pastures, sugar house, fields, etc., on a hacienda cultivating 500 hectares (1,235 acres) of cane, is 900. This makes a pay account of 45,000 soles ($20,700) per month, or 540,000 soles ($248,400) per annum, so that the total number of men employed in the sugar industry in the coast region is 23,500, receiving a total for wages of 5,540,000 soles ($2,548,400).

Calculating the value of the products of the sugar industry of the coast at the ruling prices of last year (1894)—10 soles ($4.60) per 100 kilograms (sugar, chancaca, concrete, etc.)—the amount realized on 72,500,000 kilograms was 7,250,000 soles ($3,335,000); 90,625,000 liters (23,487,739 gallons), at 8 centavos per liter, 725,000 soles, making a total of 7,975,000 soles ($3,668,500).

Interior region.—The sugar industry in the interior region is carried on in the deep, warm gorges found in the mountain ranges. With the exception of the small quantities of the products which are exported to Bolivia or conveyed to the northern departments, the products are for local consumption. Consequently, prices are regulated by the local supply and demand. Thus, it is seen that though on the coast sugar may be selling at 5 soles per quintal, the sugar makers of Huanuco get 10 soles, those of Ayacucho 20 soles, and those of Cuzco as much as 25 soles. Necessarily, the sugar industry of the interior is far less extensive than that of the coast, by reason of the difficulty of transporting the product to the ports. Properties with 200 hectares (494 acres) in cane are considered extensive and those of 20 or 30 hectares (49 and 74 acres) of importance. But as the products realize two, three, or even four times the price obtained on the coast, it follows that such properties are very valuable, the more so because the Indian laborers live on tracts belonging to the places, which they are permitted to cultivate on their own account, on condition that they are to work for the proprietor, who pays them with coca and rum. They work about six months in the year, and their wages are at the rate of 40 centavos per day.

The temperature in these vales is 10° C. (50° F.) minimum and 30° C. (85° F.) maximum. The average is about 18° C. (68° F.). The cane juice generally weighs 12° Baumé, and not infrequently 14°. The bagasse is used to enrich the soil, and, generally the trapiches (old-style vertical mills) are operated by hydraulic power; in a few places, by animals. The average yield is 4,000 kilograms (8,818 pounds) per hectare. In nearly all these places, sugar is made by the old purgery system. In the province of Huanuco, however, new machinery has been introduced, by which fine granulated sugar is obtained, which sells at a good price on the market of Cerro de Pasco.

In the Department of Cajamarca, cane cultivation is nowhere the exclusive industry of the haciendas. The production is mainly rum and chancaca for local consumption. For want of good machinery, the extraction is small. The principal haciendas are La Vina, Llugaden, Jancos, Lives, Quinden, Cauchan, Licli, La Capellania, Hudima, and Tunac. But the principal output comes from communities. The quantity of chancaca made in this Department is estimated at 450,000 kilograms (992,070 pounds).

The province of Huanuco, in the Department of the same name, has the haciendas of Quicacan, Vichaycoto, Andabamba, Canchan, Huacho, Huanchacupa, Mitupampa, Yaucan, La Esperanza, Culcuy, and Despensa, all producing sugar, chancaca, and spirits. The total production of the Department is 1,000,000 kilograms (2,204,600 pounds).

The province of Angaraes, in the Department of Huancavelica, makes 25,000 kilograms (55,114 pounds). The leading haciendas are Llamoktachi and Huanchey.

The Department of Ayacucho makes 30,000 kilograms (66,130 pounds).

The Department of Apurimac has excellent lands for cane culture, and the haciendas on the banks of the Pachachaca were renowned in colonial times. They produced 400,000 kilograms (881,840 pounds). Of late years, the competition from the coast has reduced former large productions and the juice is generally converted into spirits. The eighteen haciendas in the province of Abancay might produce 500,000 kilograms (1,102,300 pounds), but make not more than 150,000 kilograms (330,690 pounds) in sugar or chancaca, the rest being converted into spirits. The principal haciendas are Auquibamba, Santo Tomas, Carmen, San Gabriel, Pachachaca, Llanya, Patibamba, Tambobamba, Kasinchihua, and Vilcabamba; the smaller are Caquequi, Molle-molle, Matara, Chontay, Ituconga, Llaca, Mosobamba, and Pampatama.

There are twenty-nine haciendas making cane in the province of Andahuaylas, the principal being Chacabamba, Ahuairo, Tejehuasi, Pulcay, and Pariabamba. The production is 50,000 kilograms (110,230 pounds), making the total for the Department 200,000 kilograms (440,992 pounds).

Cane is raised in the provinces of La Convencion and Calca, in the Department of Cuzco; 25,000 kilograms (55,114 pounds) are made.

The region of the interior produces altogether 1,730,000 kilograms (3,813,958 pounds).

Fluvial region.—In the immense slopes and plains crossed by the great streams whose waters make their way by the Amazon to the Atlantic, cane culture has attained but little development, although the fertility of the soil and the grandeur of the forests, abounding with riches, excite the admiration of the beholders. Along the banks of the great rivers the mean temperature is 23° C. (74° F.), the minimum 18° C. (68° F.), and the maximum 35° C. (95° F.). The cane matures annually, and in some sections every nine or ten months. It generally attains a height of 3 meters (9.84 feet) and lasts from fifteen to twenty years. The juice is abundant, but it contains only from 7° to 8° Baumé of saccharine matter; in rainy years, but 6°. The limited population, naturally, brings a corresponding quantity of products. Of late years, however, modern machinery has been introduced by which excellent sugar is made. Most of the juice is made into spirits. The principal hacienda—Juan de Almonte, near Yurimaguas, in the vast Department of Loreto—is supplied with modern machinery and turns out excellent white sugar. On the Marañon River, a number of small haciendas are also in operation. Their products are marketed at the fluvial ports of Iquitos and Manaos.

Cane culture is very limited in the Department of Amazonas.

The Department of Junin produces considerable sugar. In the valley of Chanchamayo, the area of cane is 860 hectares (2,076 acres), and in that of Vitoc, 540 hectares (1,334 acres). They conjointly produce from 120,000 to 130,000 arrobas* of spirits. Although some of the haciendas, such as San Carlos and Auvernia, have complete machinery for making sugar, the output of sugar is only 15,000 kilograms and of chancaca 75,000 kilograms.

In the mountains of Huanta, Department of Ayacucho, a number of sugar haciendas have recently been started with machinery brought from the

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*1 arroba=4.263 gallons.

United States via the Amazon. The principal of these are named Ayacucho and Vista Hermosa. They realize 30 soles per quintal for the sugar. Aguardiente is also made from cane raised in various other parts of this immense region.

The total production of the fluvial region does not exceed 360,000 kilograms (793,656 pounds).

Recapitulation.

	Kilograms.	Pounds.
Production of the coast region	72,660,000=	160,186,236
Production of the interior region	1,730,000=	3,813,958
Production of the fluvial region	360,000=	793,656
Total	74,750,000=	164,793,850
	Soles.	
Capital invested	35,170,000=	$16,178,200
Value of products (1894)	8,373,750=	$3,951,825
Paid for labor (1894)	5,720,000=	$2,631,200
	Hectares.	Acres.
Area devoted to cane industry	75,600=	186,808
Area planted in cane	38,500=	95,133
	Number.	
Persons employed	24,700	

LEON JASTREMSKI,
Consul.

CALLAO, *October 31, 1895.*

SOUTH WALES TIN-PLATE TRADE.

The tin-plate trade of South Wales has presistently gone from bad to worse during the past few months. When, prior to the November elections, "the ruinous effects of the Wilson Tariff on American manufactures" was portrayed in the public prints, there was much rejoicing on this side of the Atlantic. The optimism which asserted itself was remarkable, and when the facts were quoted as being against those who gloried because American failure meant British success, their reply seemed to be, as is always the case with such as are unwilling to be convinced of being in the wrong, that it was "so much the worse for the facts." Unhappily, a crisis is at hand, and the only panacea suggested is a general stoppage for a little time next month, provided no improvement takes place in the meantime.

The executive of the Tin-Plate Workers' Union on Thursday issued the following manifesto:

> Notice to terminate monthly contracts to be handed in on Monday next. Fellow workmen, you, through your delegates who met at Llanelly in August last, decided to protect yourselves, if need be, by a general stoppage of work. The time has come when the general interest of tin-plate makers and workmen demands prompt and effective united action to prevent a repetition of the bitter experiences of the past year. At the end of this week about one hundred and fifty mills will be idle, and their number will shortly be added thereto. Makers

declare that they can not produce plates at the prices offered. The necessities of weak makers may prolong and intensify this state of things to the injury of all. The unemployed tin platers will not remain passive when those employed will be doing a fourth more work than is represented by a fair day, but would be tempted to offer wage concessions, which again would cause brother to injure brother to the loss of all. In view of all this, you are hereby instructed, if working on monthly contracts, to see that a general notice to cease contracts in twenty-eight days be handed in on Monday next, with the object of bringing about a general stoppage in February. No words are needed to urge prompt and effective united action. This was vividly demonstrated both by the bitter sufferings of the past year and the loss of the list of 1874. I look with confidence to every tin plater in this crisis to do his duty.

Yours fraternally, THOMAS PHILLIPS.
REFUGE CHAMBERS, *Alexandra Buildings, Swansea.*

THE MEN'S VIEW.

The above manifesto appears in the Industrial World, the official organ of the Tin-Plate Workers' Union, which says:

The new year opens badly to those who have deeply invested in Welsh tin-plate works and to the thousands of workmen dependent upon the tin-plate trade. The recovery of the 1874 list, the improved prices of plates secured for a time, and the Christmas holidays have tended to conceal the fact that the tin-plate trade is once more in a deplorable condition. At the beginning of this week 144 out of our 512 mills are idle, and it is computed that the first month of the year will see 40 works idle. This can be contrasted with the state of affairs before the McKinley Tariff came into operation. In January, 1889, there existed 444 mills, 41 mills being idle; January, 1890, there existed 482 mills, 17 of which were idle. Thus the serious position of affairs is made painfully evident. The policy now adopted by employers is certainly wise, notwithstanding that, for a time at least, it entails loss of wages, and thereby suffering, among workmen. As the result of the existence of certain conditions, not altogether clear to our most astute makers, plates can not be sold at less than the cost of their production. To stop producing at a loss, therefore, is to stop giving money away, a matter that sooner or later would be forced upon the wealthiest firms.

In this state of things, it is a duty upon those interested to seek the cause, and, if possible, provide a remedy. The Welsh mills, with the comparatively few tin-plate mills on the Continent of Europe, are capable of fully meeting the present requirements of the world for tin plates; that being so, every box of plates made in America means a box less made in Wales. Now, the Americans claim that they have 153 mills at work. This probably is an exaggeration, but it tends to show that at present we have over 100 mills in Wales over and above what our trade demands. If it were possible to dismantle about 100 mills and to turn over those employed thereat into another industry, then the difficulty for the time would be met. But that is impossible. Then it is said that what is called a natural law should be allowed to operate, and the weakest be driven to the wall. Experience of past years has proved that this also is impossible, as far as tin-plate works are concerned. Works that have been driven to the wall and sold to satisfy creditors, have been bought up by strong companies who have again set them going with a larger producing capacity than ever. Again, the workmen keep in the neighborhood of stopped works, clinging to the hope of a start. Such was the case until lately at the Moria, Llanelly, and now can be witnessed at the Avon Vale Works, Aberavon.

Tin-plate makers at last are moving with a view of securing new markets, but this will be the work of years, and immediate relief is demanded. The work of the surplus mills, while each maker is cutting prices to make sure that his mills shall not be a part of the idle hundred, is a weapon that the great tin-plate merchants, who are adepts at "market rigging," use mercilessly against makers, who are in their hands as pawns in a play. It would be highly interesting to know the exact price paid by an American tin-plate jobber over and above the price paid for plates in Swansea. I am disposed to believe that the extra charges, beyond first cost, freight, and a fair profit, would make the tin-plate maker's mouth water. If my surmise is correct, Welsh tin plates do not get the advantage of sale in competition with American plates they ought to have. American makers are already appointing their own commissioners, and in this way hope to get further advantage over the Welsh makers, who rest content to be at the mercy of a few firms who play the double shuffle with American and Welsh plates.

Welsh makers are certainly entitled to the price that will cover cost; this they now fail to get. Convinced at last that the trifle represented by any possible reduction of wages is valueless to help trade, they quietly close their works and cease producing. Of these works, it can not be said that they are not modern works, for some of them are the best equipped and most advantageously situated in the trade. When this is the case, it may be taken for granted that the works going, except possibly those who have lately developed a new trade, such as black plate, circles, etc., are making little profit. If this is correct, it would be certainly better for even these to work short time on a profit than full time at no profit. Then here we have a case made out in favor of a general stoppage, for since the productive capacity is more than is required, it becomes a general interest to divide what work there is among all the mills, and for all to stop producing a sufficient period to deplete the market of the plates of the surplus mills.

To the leaders of the men, the only course that suggests itself to improve the deplorable state of things is a general stoppage, and, accordingly, notices have issued this week as regards a large proportion of the operatives for the termination of contracts; but it remains to be seen whether the response will be an encouraging one. Personally, I am of opinion that, as it is notorious that the union of the tin platers is far from what it should be and they have suffered so much during the past year, large numbers will refuse their consent to voluntary idleness, while a great many will be simply "out of work" because they will have no work to do.

The quarterly meeting of the trade was held yesterday at Birmingham, and the press report thereof is as follows:

The quarterly meeting on Thursday had not so large an attendance of Welsh makers as usual and business was very tame. The result of continental, South African, and American complications added to the uncertainties attending the course of American trade this year. Seldom has the outlook been more difficult to decipher. Liverpool, London, and west of England merchants gave out few orders, and American buyers were reported to be acting with caution, like everyone else. Makers quoted cokes at 9s. 3d. to 9s. 4½d., Welsh merchants offering 9s. to 9s. 1½d.; Bessemer coke squares were 9s. 6d. to 9s. 9d.; Swansea and Siemens, 9s. 9d. to 10s.; low-grade charcoals were 10s. 3d. to 10s. 6d., and superior, 13s. to 15s. At this time last year cokes were 9s. 3d. to 9s. 4½d., buyers' prices. Wales Bessemer squares, 9s. 7½d. to 9s. 9d., and charcoals 10s. 9d. upwards. Just two years ago cokes were 10s. to 10s. 3d. Swansea, or 10s. 4½d. Liverpool; charcoals were 11s. to 11s. 3d. Bessemer tin bars were quoted to-day at £3 17s. 6d. to £4. It is reassuring that the total exports of tin plates last year were 12,000 tons in excess of 1894, being nearly 366,000 tons, against nearly 354,000 tons in 1894. To America the shipments were almost equal to a year ago, namely, 223,000 tons, against 226,800 tons in 1894. Next to America, Russia was the largest customer, taking 30,000 tons, against 24,000 tons twelve months back. Other countries unenumerated are classed next, with 27,400 tons. Australia and Canada each took 16,000 tons, an increase respecting Australia of 4,000 tons. The purchases of France were 13,000 tons, an increase of

3,000 tons; and of India, 11,000 tons, an increase of over 3,000 tons. On the month America's purchases are down 3,300 tons compared with December last year, but on December, 1893, an increase of 7,000 tons.

Hopes are entertained that, in the near future, prices will advance from 8 to 12 cents per box, in which case, it is argued, a general stoppage will not be deemed necessary, and that, moreover, there will be, at least, a possibility of men who, in several instances, are now paid at 20 per cent below the standard list rate of 1874, obtaining a slight advance. It is notorious, however, that there are at least a hundred too many mills in existence here, and the argument put forward by the men is that the only possible remedy is to check the output.

At the instance of the Llanelly Chamber of Commerce, the operators have directed the attention of tea importers to the advantages, as regards cost, weight, and size, and consequently freight, offered by tin-plate boxes over the heavy, wooden, lead-lined chests which are generally in use; but, so far, what change has been effected in this direction has been of a limited character, and even if it becomes general, which is possible in the course of years, the quantity of tin plate necessary for that purpose would not be very considerable. But it has for several years past been recognized by all concerned that the uncertainty of the American trade emphasized the need of opening new markets, and now that the American demand has fallen off to an enormous extent, salvation seems to be possible only in that direction. Hitherto nothing has been done beyond talk as to what should be done, but at last it promises to crystallize into action, for the formation of a public company with $100,000 capital is contemplated.

The following circular has been posted to all the members of the Tin-Plate Makers' Association of South Wales and Monmouthshire:

SWANSEA, *January 7, 1896.*

GENTLEMEN: I beg to inform you that a provisional committee, appointed by the large meeting on the 17th ultimo, met yesterday, and were unanimously of opinion that in order to develop new markets it would be necessary to employ agents in China, India, Ceylon, Africa, Australia, and other countries to promote generally the consumption of tin plates for packing and domestic purposes.

It would most likely be necessary to supplant the foregoing by sending out experts and machinery to illustrate economical methods of converting tin plates to various uses.

To do this work, a large sum of money would be required, and it was strongly felt that unless the scheme was fully supported by the trade it could not be carried through.

After careful consideration the following resolutions were passed:

"That the committee recommends the formation of a company under the companies act, 1862, for the purpose of promoting the uses and consumption of tin plates.

"That the capital of the company be £20,000, in £1 shares.

"That the calls be 4s. per share at intervals of not less that twelve months."

I am instructed to request the favor of your attendance at a meeting to be held at the Mackworth Arms Hotel, Swansea, on Tuesday, the 21st instant, at 2.30 p. m., for the purpose of adopting the above resolutions or otherwise; and it is earnestly hoped that you will make a point of being present.

Yours faithfully,

W. R. QUICK,
Secretary pro tem.

This step should have been taken earlier, in view of the present depression; moreover, the subscriptions, although to some extent already guarantied, will not be obtainable so readily during the present bad times. It is to be hoped, however, that enough money will be forthcoming for the purpose indicated. Nevertheless, what is most urgently needed is immediate relief, as ever since the fall set in the figures ruling have been ruinous, and it is said that scarcely one of the works in the trade has been running regularly, there being at present nearly 170 mills idle, with a prospect of an immediate increase of the number.

The following figures are taken from the British Board of Trade and Navigation returns for the month and year just ended:

Exports of tin plates and sheets to—	Month of December—			Year ending December 31—		
	1893.	1894.	1895.	1893.	1894.	1895.
Russia	£34,039	£48,352	£25,484	£375,507	£282,615	£340,440
Germany	3,477	2,192	7,146	40,630	48,222	59,569
Holland	7,242	5,984	5,150	76,281	70,357	63,613
France	10,942	8,585	11,909	150,815	127,085	161,663
Portugal, Azores, and Madeira	3,125	4,890	8,123	74,629	36,022	73,993
Italy	4,170	2,850	1,747	51,076	36,328	31,146
Roumania	....	....	52	60,331	63,318	37,598
United States	182,578	301,248	247,712	3,352,693	2,781,027	2,578,219
Brazil	1,774	6,681	5,989	57,994	62,870	52,707
Argentine Republic	3,805	5,121	5,582	44,746	37,897	33,113
British East Indies	10,472	11,192	10,988	79,813	99,016	128,629
Australasia	12,223	13,392	16,930	101,400	145,524	183,975
British North America	17,464	14,632	11,893	226,323	197,064	179,927
Other countries	20,115	33,916	29,434	299,062	351,441	320,203
Total	311,426	459,071	388,139	4,991,300	4,338,786	4,244,795

The falling off since 1892 has been enormous, and compared even with 1894 there has been a considerable decrease. It will be seen from the foregoing that whereas the total decrease reaches £93,991, the difference with respect to the exports to the United States itself is no less than £202,808. In spite of this, the United States remains the leading customer, for she consumes even now more than half of the tin plates exported from Great Britain. I should state further that prior to 1895 black plate was included in the iron and steel statistics, but the returns now show that during the year black plate for tinning purposes was exported to the value of £339,221, of which the United States took £89,938.

ANTHONY HOWELLS,
Consul.

CARDIFF, *January 10, 1896.*

SUPPLEMENTARY REPORT.

The present situation of the tin-plate trade here lends emphasis to the statements made in previous reports which I have had the honor to submit, and notably in my January report of this year, wherein I endeavored to show that even those who had been most sanguine as to the future prospects of the trade had been compelled to recognize the hopelessness of the case and the utter futility of recovering the American market.

On the part of the operators, nothing has been attempted, even the board of control, which was to have been formed, having failed to secure sufficient support for its formation, and the latest intelligence with regard to combination or the absence of it, is that the South Wales Tin-Plate Makers' Association is being wound up, and that what funds remain are to be distributed among the parties entitled thereto, according to the rules.

The phenomenal condition of things which has recently obtained is responsible for a spirited competition for concessions from the operatives, and, consequently, there is less uniformity of wages than was ever known before, the motto of the masters evidently and indeed necessarily being "everyone for himself." The same remark applies to the men, for in spite of the most strenuous efforts made by the Tin-Platers' Union, they have not been brought into line, so that, while here and there the operatives have refused to concede more than 10 per cent off the "1874 list" of wages, considerably larger concessions have been made in numerous instances and the poverty of the union under present conditions has rendered it practically powerless.

At the annual council held a few days since, the organizing agent announced that of the 491 mills in the district, no less than 253 were idle, while 91 were being run at a 10 per cent reduction of wages, 40 at 12½ per cent, 91 at 15 per cent, 6 at 20 per cent, 5 at 22½ per cent, and 5 at 25 per cent. Yesterday, settlements were effected at two of the leading works at 15 per cent, work to be resumed next week; and I hear of similar arrangements elsewhere. Therefore, it is probable that the number of idle mills will, to a small extent, be reduced immediately. But it must be obvious to everybody that there are too many mills for the trade. Allowing fully for the depression which exists, the American market has, to a great extent, been lost, without any hope of its return, while, on the other hand, the mills were never too few in number, and, under any circumstances, a considerable proportion will no longer be required.

The local press has been very much exercised with regard to the woeful plight in which all concerned in the tin-plate trade find themselves, and many a wiseacre has wasted ink in trying to show causes and suggest remedies. One hears less now, by the way, about American politics and the awful disasters about to befall all engaged in building up the trade in the United States; and what I have repeatedly urged is being brought home to the minds of the people here—that American enterprise, skill, and ingenuity will ultimately meet all American demands with regard to tin plates, as has been the case with steel rails.

There is a great deal of pathos in the case of a decaying industry, and one can not refrain from sympathizing with the thousands of workmen and those dependent on them who are forced to suffer want. I have seen it stated that even in the record year 1891 (when an immense quantity of plates was consigned to the United States for entry before the McKinley Act came into force), the 510 mills which, by that time, had come into existence had an estimated production of no less than 14,000,000 boxes, whereas the demand barely exceeded 11,000,000 boxes. At that time, there was money in the business, and a large number of new mills had been erected to serve the halcyon period. Certain it is, that there are now nearly twice as many mills as are needed, and it is not surprising, therefore, that the decision of the tin platers to enforce a general stoppage in March was not carried into effect. This decision was arrived at in a convention which was described as being the most important ever held in the history of the trade, and in the report adopted it was estimated that 55 mills were then idle and 4,600 men out of employment in consequence. Since then, the number of idle mills has been nearly quadrupled. The report in question goes on to say that "we have it on good authority that American production of tin plates during the year 1895 was some 2,000,000 boxes, equal to the work of about 70 of our mills; therefore, if no tin plates had been produced in America, our productive power even then would be in excess of the demands of the world. Thus we explain the large number of mills idle." Again, "we hold that any reduction of wages in Wales would be followed by a larger reduction in America, and our position would be injured rather than improved." The report then goes on to suggest that an understanding was desirable with the employers to make wages uniform, and adds, "the wiser course, in our opinion, is to arrange for periodical stoppages."

But the effort proved abortive, because large numbers of the workmen refused to join the movement. Since then (a few days ago) the labor leaders decided upon inviting the makers to confer with them, and the Western Mail (a local daily paper) discusses the proposed joint convention as follows:

> We congratulate the Tin-Plate Workers' Union of South Wales and Monmouthshire. They sat all day on Saturday at Swansea, and had the courage to again face their difficulties. It wanted the disembodied and distributed soul of a Mark Tapley among that council to enable them to cheerfully talk about this thing once more for hours, and then to arrange for and hope much from a "conference." It may truly be said of the tin-plate organization in these latter days that "of the making of conferences there is no end." We only wish we could help them to bear their burdens by laying our finger upon any one conference in the past which has produced any result. It would be cheering to point to past instances of cooperation among "merchants, masters, and men"—yes, the merchants, those who, according to the president, ruined the trade, are to be in it this time—and to say that solid amity and mutual consideration for the welfare of the trade have ever prevailed in such a case. One thing, too, is clear—never were masters and men more hopelessly apart than at present, for there is no inducement in the shape of orders to bring them together. Masters do not bother their heads about men when they have no work, or, at least, no remunerative work, on hand.

Neither in America nor in England is there anything doing in the trade. The depression is as dark and terrible as the Stygian pit, and men and masters have settled down to a Procrustean bed. From figures produced on Saturday, less than half the mills are working, and at these the reductions vary from 10 to 25 per cent on the old list, showing that there is utter absence of discipline, order, or control. Men like Sir John Jones Jenkins and Mr. Williams declare the latter reduction the only possible one. The men confess their hopelessness to regulate matters without "substantially augmenting their funds"—a point which sounds like a little tinkling war alarm, but in reality is only another sad instance of impotence and hopelessness. The net result of Saturday's meeting is intended to be distinctly amicable. A meeting of masters and men to regulate wages and bring about some fair standard might be of use, but this is to be a conference of all sections, for the purpose of trying to "recover the trade, which is fast leaving the country." There is little to be expected, we fear, from such a conference, but it may be as well to see once more whether mutual adversity, which makes strange bedfellows, will bring these very peculiar ones together, and whether out of their woes may accidentally spring some useful suggestion on this at present seemingly hopeless question. Let them confer; it won't do any harm, at any rate.

The best that can be said of the foregoing observations is that they offer but cold comfort.

Sir John Jones Jenkins, M. P., who has for many years past been one of the most prominent among the manufacturers, recently issued a circular to the creditors of the Cwmfelin works, of which he was the chief proprietor, intimating that work would not be resumed owing to the bad condition of trade, and in a speech he blamed employers more than the men for the present position, and deplored the fact that masters are so jealous of each other that they can not be induced to take combined action for the benefit of the trade as a whole by way of regulating prices and abstaining from overstocking the market. The men he blamed, or rather their leaders, for consenting to varied wage concessions. It is significant that this gentleman has announced his retirement from a business in which he has been interested all his life simply that he may escape the anxieties which it involves. Most people appear to have lost heart, and nothing is being done to speak of by way of opening up new markets, the attempt to form an association with that object in view having failed simply because a large proportion of the makers refused to subscribe toward its funds.

Everything now points to continued depression for some time to come, and the day is approaching when only such works as are abreast of the times in turning out plates at the minimum cost can be run, for the survival of only the fittest will be possible.

Nothing has occasioned so much surprise to me throughout this tin-plate district as the restricted local use of the products of this national industry, which is allowed to remain to a great extent dependent upon the enterprise of foreign customers. In roofing, this is very noticeable, presumably because Welsh slates are abundant and give full satisfaction as regards quality. But now that slates are being sent to Cardiff from Slatington, Pa., the fact has forced itself upon the tin-plate manufacturers that there must be good reason for the popularity of the terne roof in the United States, and at last the idea of encouraging the use of terne at home is being seriously entertained. This assumed a practical form at the Metal Exchange yesterday, for, according to the press, an exhibit was made, and it was claimed that 100 superficial feet would take but half a box of terne, at, say, $4 per box, compared with $7 worth of slates. The difference is, therefore, considerable, because, although occasional painting is necessary, the initial cost would be so much lower, to say nothing of the lesser outlay on the timbering and scantlings, that there is abundant room to develop the trade in this direction for ordinary building purposes.

The following appeared in the South Wales Daily News:

To the Editor.

SIR: Before it is too late to retain any of the trade with the United States in tin plates, we think it well to hand you extracts from letters received this day from two important houses in America. We make no apology for sending you these extracts, believing, as we do, that the tin-plate trade has reached a crisis in its history when the future of the South Wales tin-plate trade is at stake. Knowing as we do from the serious falling off in the demand that the statements of our correspondents are perfectly reliable, we would beg you to urge, with all the force of which you are capable, counsels of wisdom on the part of the workmen and their leaders. Unless the cost of production of tin plates in Wales can be materially reduced, we see no other prospect before us but the extinction of the trade, so far as the United States are concerned. Trusting that the subject may receive that serious consideration which it demands, we are, etc.,

JEVONS & CO.

LIVERPOOL, *February 27, 1896.*

[Extract.]

Referring to yours of the 5th, we don't see how we can afford to give you any more orders for old-style plates at price you name, with American mills offering us a plate guarantied to carry fully as heavy a coating as the old style at a price which would cost us fully 25 cents per box less for 14 by 20. If the makers expect to retain trade in this country for old-style plates, the sooner they reduce their prices the better it will be for them. We also note what you say about the price of ternes, but as we can buy American ternes, carrying 11 to 12 pounds of metal to the box, 20 by 28, as low as $3.50, 14 by 20, delivered, against yours costing us, probably, $3.75, there is no prospect of our being able to give you business in that grade of plates. The same remarks will apply to quotation you have named us on coke plates, as we can buy full-weight guarantied coke as low as $3.55, delivered, against your cost price of $3.75. We are sorry for your sakes to say it, but with the economies practiced and the great improvement in manufacture, we believe that American mills can make plate at considerably less than foreign price, duty added, and there is but little, if any, chance of the Welsh makers ever again obtaining much of a foothold in this market. At the present time, the most modern American mills are doing all their pickling by machinery, as well as cleaning. The writer expects to see many labor-saving machines used in the manufacture of tin plate before this year expires, which will still further reduce their cost.

[Extract.]

We see no chance to do anything in black plates for the present, as the American makers will undersell you.

It is occasionally hinted that certain tin-plate works will be converted into galvanized-sheet mills, and as the exports, which reached 62,645 tons during the past quarter, show an increase during that period of 50 per cent, this does seem possible. I notice, however, in this country, that it takes a long time for any industry to localize itself and that manufacturers are slow to make innovations.

Appended are the comparative returns of the exports of tin plates during the quarter ending March 31:

Weight of exports of tin plates.

Exported to—	Month ending March 31—			Three months ending March 31—		
	1894.	1895.	1896.	1894.	1895.	1896.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Russia	166	2,813	1,150	7,634	5,851	2,138
Germany	134	617	1,115	856	1,235	2,098
Holland	475	292	500	1,208	948	1,602
France	884	2,073	1,161	2,749	6,110	3,231
Portugal, Azores, and Madeira	235	357	774	745	991	1,720
Italy	169	146	101	767	833	603
Roumania	1,017	268	612	1,478	328	1,016
United States	16,907	18,743	8,903	48,616	60,570	27,744
Brazil	255	401	514	729	1,296	1,475
Argentine Republic	243	61	343	848	281	2,237
British East Indies	636	919	869	1,752	2,595	4,455
Australasia	1,098	1,020	1,511	2,956	2,505	4,709
British North America	650	639	789	3,066	2,044	2,907
Other countries	2,553	2,452	2,916	7,477	8,085	7,178
Total	25,422	30,801	21,258	80,881	93,678	63,113

Value of exports of tin plates.

Exported to—	Month ending March 31—			Three months ending March 31—		
	1894.	1895.	1896.	1894.	1895.	1896.
Russia	£2,110	£30,744	£14,110	£92,174	£67,354	£25,958
Germany	1,781	7,998	14,199	10,902	15,938	26,708
Holland	6,501	3,677	6,338	17,500	12,184	20,939
France	10,970	25,596	13,740	34,018	75,408	38,645
Portugal, Azores, and Madeira	2,829	4,344	9,309	9,058	12,083	20,657
Italy	2,389	1,757	1,286	10,027	9,989	7,254
Roumania	14,381	3,257	6,800	20,780	4,025	11,486
United States	204,257	219,174	101,901	598,539	704,391	316,055
Brazil	3,240	4,508	5,594	9,142	14,747	16,440
Argentine Republic	2,921	653	3,817	10,100	3,240	25,015
British East Indies	7,979	10,850	9,864	22,202	31,000	50,429
Australasia	13,843	11,927	16,940	37,001	29,252	52,523
British North America	8,454	7,245	8,165	38,781	23,191	31,134
Other countries	32,657	28,398	32,548	99,105	94,853	82,781
Total	314,312	360,128	244,611	1,009,329	1,097,655	726,024

ANTHONY HOWELLS,
Consul.

CARDIFF, *April 13, 1896.*

TRANSPORTATION TARIFF FOR AMERICAN GOODS FROM GENOA TO ZURICH.*

As cheap transportation rates go a great way toward the successful introduction of American goods into foreign countries, and having so far been unable to obtain through rail rates from seaboard to points in Switzerland, except those from Antwerp, given in my report of June 2, 1894,† I concluded to try if I could not induce the St. Gotthard Railway Company, which connects with the Italian State railways, thus forming a direct route to the port of Genoa, where steamers and sailing vessels coming from American ports regularly call, to establish a lower tariff.

I wrote to the board of directors of the above-named route requesting, if possible, a special through tariff from Genoa over their line to Swiss points on goods of American origin, promising that if they would comply I would submit the rates to the Department of State, which, if deemed proper, would cause the same to be published for the benefit of American shippers.

A few days ago I received a reply, which, translated from the German, reads about as follows:

LUCERNE, *September 14, 1895.*

Mr. EUGENE GERMAIN,
United States Consul, Zurich.

SIR: In your valued favor dated July 26, 1895, you recommend the compilation of a reduced tariff for American products and manufactures bound to Switzerland, and express your opinion that, by a special low tariff, it would be possible to increase by new business the traffic of our line. You also declare your willingness to eventually submit such a tariff to your honored Government, which, if it deems it advisable and proper, would cause the same to be published for the benefit of American shippers.

We have taken due notice of your interesting communication and have the honor to reply as follows:

For shipments of American origin, from Genoa in transit to Switzerland, the fixed rates of the Italian-Swiss freight tariff established August 1, 1888, plus supplements I–X, is still in force. In this tariff, our line has already adopted lower through transit rates, so that goods hence Genoa, that is, including goods of American origin, on the St. Gotthard Railway, enjoy already the benefit of lower rates as against the local rates for Swiss local points. We take the liberty to transmit to you herewith a list of a greater number of American export articles, with the transportation rates hence Genoa in through transit to Zurich, as they already exist, for your perusal and opinion.

For our line to grant still lower rates on American articles is not well possible, owing to our obligations toward Italy, a subventioning State, which would not sanction lower rates on American articles in transit as against Italian. Such proceeding might lead to disagreeable controversies, which we like to avoid. We, however, do not want to be understood to say that the charges for all classes of goods in transit Genoa–Switzerland shall remain as they are. We will, on the contrary, in the future, as heretofore, taking time and traffic circumstances into consideration, in connection with the Italian railways, carefully investigate if for one or the other articles the granting of a general (including articles of American origin) concession or tariff reduction is at all possible. For instance, we have under consideration and in view at the present time an important tariff reduction on raw-cotton shipments in carloads of 10,000 kilograms (22,046 pounds) from Genoa in transit to Switzerland. The negotiations, however, we are sorry to say, have not as yet advanced far enough to enable us to give you definite information on the subject.

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*See, also, supplementary report.

†See CONSULAR REPORTS No. 172 (January, 1895), p. 66.

Finally, we beg to say that a traffic in American goods over our line, Genoa to Switzerland, already exists, and we have no doubt that with the present tariff rates said traffic is favorable and open to an increase.

We have the honor, Mr. Consul, to assure you, etc.,

THE DIRECTORY OF THE ST. GOTTHARD RAILWAY.

Special classification and tariff rates on sundry commodities from Genoa direct to Zurich, Switzerland, of the St. Gotthard Railway and connecting line.

Articles.	Small shipments.	Carloads of 5,000 kilograms (11,023 pounds).	Carloads of 10,000 kilograms (22,046 pounds).
Agricultural implements, made of iron and wood, such as plows, harrows, (except steam plows and harrows), shovels, scythes, etc	$11.35	$7.14	$6.19
Cotton, raw, in bales	*10.87	6.31	5.88
Lead, in sheets, plates, rolls, and bars (the latter in bundles)	10.58	6.67	5.61
Borax, natural	11.86	8.46	7.39
Brandy, ordinary, in bottles or barrels	12.03	8.46	7.39
Cement in sacks or barrels	10.24	5.98	4.16
Cigars or cigarettes	12.03	8.46	7.39
Iron and steel, manufactures of, or of which iron and steel are the chief component parts	11.35	7.14	6.19
Grease of cattle or other animals	12.03	8.46	7.39
Fish, canned or salted, dried or smoked (fresh-salted herrings excepted)	11.56	8.46	7.39
Meat, smoked, salted, or dried	12.03	8.46	7.39
Cereals, as barley, oats, maize, rye, and wheat	10.58	7.14	†5.17
Tools of all kinds, of iron and steel, also if partly of wood	11.35	7.14	6.19
Resin, ordinary, gallipot, etc. (colophonium excepted)	10.87	7.14	6.19
Household goods of all kinds	12.03	8.46	7.39
Hay, clover, etc., in pressed bales of at least 176 pounds each	‡10.58	5.41	4.54
Wood:			
Ebony, mahogany, teak, black walnut, and all other cabinet woods, in boards, planks, etc	10.87	7.14	6.19
Pitch pine and yellow pine	10.58	7.08	6.09
Honey	12.03	8.46	7.39
Hops, pressed, in round or cylindric bales of at least 220 pounds each or in square bales, in cases, or metallic cylinders	11.35	7.04	5.48
Beans, pease, etc., dried	10.58	7.14	5.17
Candles	12.03	8.46	7.39
Conserves for food purposes	12.03	8.46	7.39
Copper, in sheets, pigs, plates, and bars (the latter in bundles)	12.03	8.36	7.15
Leather of all kinds	12.03	8.46	7.39
Linoleum	12.03	8.46	7.39
Malt	10.58	7.14	†5.17
Machines, agricultural, such as steam plows, steam harrows, sowing machines, presses, thrashing machines, etc	10.87	6.39	5.95
Machines other than above, also sewing machines	10.87	7.14	6.19
Molasses	10.87	7.04	5.48
Mill products, as flour, grits, etc	10.58	7.14	5.51
Fruits:			
Dried, such as apples, pears, apricots, plums, and grapes	12.03	7.43	6.36
Fresh apples, pears, and plums	11.35	7.60	5.90

* For cotton, raw, in pressed bales of at least 200 kilograms per cubic meter.

† For mill products (flour, etc.), $5.51.

‡ To be applied for 1½ times the real weight.

Special classification and tariff rates, etc.—Continued.

Articles.	Small shipments.	Carloads of 5,000 kilograms (11.023 pounds).	Carloads of 10,000 kilograms (22,046 pounds).
Paper:			
Cigarette, writing, blotting, copying, drawing, colored, envelopes, etc.	$12.03	$8.46	$7.39
Wax, tarred, or cloth lined, for packing purposes	11.86	8.26	7.36
Petroleum	11.56	8.46	5.66
Quicksilver	12.03	8.46	7.39
Pipes of cast iron	10.58	6.57	4.94
Seeds:			
Grass, clover, vegetable, mustard, and other, in sacks, bales, or barrels	11.35	7.14	5.58
Oilseeds, as linseed, cotton seed, etc., in barrels or sacks	11.35	7.14	5.24
Acids, arsenic, clover acid, nitric acid, etc	12.03	8.46	7.39
Hams, smoked or salted	12.03	8.46	7.39
Lard	12.03	8.46	7.39
Soap, ordinary, not perfumed, in pieces	11.56	8.46	7.39
Bacon	11.56	8.46	7.39
Straw, ordinary, in bales, pressed, of at least 176 pounds each	*10.58	5.41	4.54
Oranges and lemons	12.03	8.46	7.39
Tobacco, leaf	11.56	†8.32	7.39
Carpets	12.03	8.46	7.39
Glucose and sirups	11.35	7.14	6.19
Wax, raw or other	12.03	8.46	7.39
Wine, ordinary, in barrels	10.87	7.80	6.59
Wine, in bottles	11.56	8.46	7.39
Wool, unwashed, in bales	‡10.87	7.14	5.58

* To be applied for 1½ times the real weight.

† Minimum weight per car, 7,000 kilograms (15,400 pounds).

‡ For unwashed wool in pressed bales of at least 200 kilograms (440 pounds).

The rates are only applied to direct shipments from Genoa to Zurich, without unloading en route. Shippers need not prescribe a special tariff, but can simply write on the bill of lading, "cheapest tariff."

EUGENE GERMAIN,
Consul.

ZURICH, *October 15, 1895.*

SUPPLEMENTARY REPORT.

On October 15, I sent to the Department the translation of correspondence had with the St. Gotthard Railway in relation to railway rates for American goods from the port of Genoa, Italy, in transit to Swiss points.

In acknowledging receipt of said correspondence to the St. Gotthard Railway, I took occasion to call the attention of the board of directors of said railroad to the fact that railroad rates on many American goods by other lines of railways, especially on such shipped to Antwerp, thence in transit to Swiss points, were lower, and pointed out that, if they wanted a share of said trade, they would have to exert themselves and lower their rates, especially because of the shorter haul. I inclose a translation of a communication received this day:

We are in receipt of your favor of the 14th instant and thank you for your endeavors to increase the freight traffic from America via Genoa to Switzerland. We note that you are of opinion that freights from Genoa via Italian and St. Gotthard railways are higher than from Antwerp via other lines of railways to Swiss points. This, however, only applies to a limited territory of Switzerland, as we can show by our tariff now in force. We claim that freight charges hence Genoa by our lines are in general lower than those from Antwerp transit to Switzerland. Especially is this the case for freights to Zurich, as you can readily see by our tariff comparison herein inclosed, which covers a number of American export articles. As with Zurich, to most of the Swiss railroad stations in eastern Switzerland the freight-rate relations are in most cases in favor of our road. Further important freight reductions, in favor of the Genoa-St. Gotthard route, will be inaugurated as soon as the short line via Arth-Goldau-Zug-Thalweil-Zurich, now in course of construction, is completed and opened to traffic.

If, therefore, American exporters can secure as advantageous water rates to Genoa as are obtainable to Antwerp—a thing we think quite possible—we have no doubt they will find it more profitable to ship their goods, taking advantage of our present tariff, via Genoa transit to Swiss points than via Antwerp transit to Switzerland.

Freight rates from Genoa transit to Zurich and from Antwerp transit to Zurich, per ton of 2,204.6 pounds.

Articles.	From Genoa to Zurich.			Less via Genoa than by Antwerp.		
	Small shipments.	Carloads of 5,000 kilograms (11,023 pounds).	Carloads of 10,000 kilograms (22,046 pounds).	Small shipments.	Carloads of 5,000 kilograms (11,023 pounds).	Carloads of 10,000 kilograms (22,046 pounds).
	Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Agricultural implements, iron	56.74	35.69	30.93	4.46	6.80	7.71
Cotton, raw, in bales	54.37	31.57	29.37	20.06	10.92	3.11
Lead in sheets, etc	52.90	33.36	28.07	8.30	9.13	10.57
Borax, natural	59.30	42.31	36.94	18.23	11.25	11.64
Brandy, ordinary	60.14	42.31	36.94	17.39	11.25	11.64
Cement, in barrels or sacks	51.19	29.90	20.79	23.24	2.08	3.08
Cigars or cigarettes	60.14	42.31	36.94	17.39	11.25	11.64
Iron and steel ware of all kinds	56.74	35.69	30.93	4.46	6.80	7.71
Grease, animal	60.14	42.31	36.94	17.39	11.25	4.44
Fish, salted or preserved	57.77	42.31	36.94	19.76	11.25	11.39
Meat, smoked, salted, or dried	60.14	42.31	36.04	17.39	11.25	11.64
Grain	52.90	35.69	25.82	21.53	6.80	5.17
Tools of iron and steel	56.74	35.69	30.93	4.46	6.80	7.71
Resin (ordinary), etc	54.37	35.69	30.93	20.06	6.80	7.71
Household implements of all kinds, furniture, and fixtures	60.14	42.31	36.94	17.39	11.25	11.64
Hay	52.90	27.05	22.68	21.53	4.93	.64
Wood:						
Ebony, maple, etc	54.37	35.69	30.93	20.06	6.80	7.71
Pitch pine, yellow pine, etc	52.90	35.42	30.47	21.53	7.07	8.17
Honey	60.14	42.31	36.94	17.39	11.25	11.64
Hops in pressed bales	56.74	35.19	27.39	17.69	6.40	4.19
Beans, pease, etc., dried, etc	52.90	35.69	25.82	21.53	6.80	8.13
Candles	60.14	42.31	36.94	17.39	11.25	11.64
Conserves for food purposes	60.14	42.31	36.94	17.39	11.25	11.64
Copper:						
In sheets, etc	60.14	41.81	35.76	4.16	11.75	12.82
In blocks, etc	60.14	41.81	35.76	4.16	11.75	12.57
Leather of all kinds	60.14	42.31	36.94	17.39	11.25	11.64
Linoleum	60.14	42.31	36.94	17.39	11.25	11.64
Malt	52.90	35.69	25.82	21.53	6.80	11.07

EUGENE GERMAIN,
Consul,

ZURICH, *December 2, 1895.*

FRUIT TRADE OF SICILY WITH THE UNITED STATES.

Seldom in the history of the Sicilian green-fruit trade has so disastrous a period been experienced as the three months ended December 31, 1895, the shipments during which time from the island of Sicily amounted to 786,262 boxes, of which 443,251 were shipped from Messina alone, and the average loss entailed is placed by the most conservative estimates at $1 per box, two-thirds of which, at least, has fallen upon the American consignee. In many instances lemons upon which an advance of 6s. ($1.46) a box was made did not realize when sold much more than sufficient to meet shipping and customs expenses.

An absolute disregard for the laws of supply and demand is alone responsible for this result. The shipments for October will tell the story. During that month there left Messina alone 138,950 boxes of lemons, against the shipment during the corresponding month in 1894 of only 43,427 boxes. The most voracious appetites have their periods of surfeit, and even New York, Boston, Baltimore, Philadelphia, and New Orleans, with their great outlets, can experience a glut. That of October last was most serious, and the overloaded market is slow of reaction. Such conditions have occurred before, but, fortunately, seldom with such demoralizing results, and they will continue to occur so long as the cause therefor exists. That cause is the system of advances as at present conducted—a system which places the man of straw upon an equality with the man of metal, and is an absolute bar to the legitimate operations of capital.

A packer in possession of a letter of credit for £1,000, the requirements of which necessitate that the goods be shipped upon certain dates, finding himself pushed for time can not afford to be too particular about the quality of the fruit he buys. When he goes upon the market, the grade he should ship can not, perhaps, be had in sufficient quantity or at his price. It is not reasonable to suppose that he will abandon the order. He is only human, and solves the difficulty by buying some of the best quality and some of an inferior grade, mixing them, making his shipment and taking his chances.

The terms of the letter of credit only require that the banker be presented with a bill of lading and a consular invoice calling for so many boxes of lemons or oranges, but no specification is asked as to quality. For all intents and purposes, the boxes may not contain fruit at all, but stones, as occurred last year in several shipments from Palermo.

Now, let me ask what protection has the American importer against a dishonest shipper? None, whatever. He is absolutely at the shipper's mercy, be he dishonest or honest, as in cases like this. Letters of credit authorize an advance of a certain number of shillings per box until they expire. Between the date of issue and the date of expiration, violent fluctuations may and do occur. For instance, I know of credits now in existence authorizing an advance of 5s. ($1.21) per box of fresh-cut lemons, while they can be bought to-day upon the open market for 5½ Italian lire, which, at the present rate of exchange, equals 99 cents. In other words, when the shipper draws his advance he has a profit of 22 cents per box, on which, at the rate of the last sale in New York, the consignee will lose at least 35 or 40 cents.

The freight and expenses are, of course, a charge against the shipper; but the consignee has to pay them before he can obtain possession of the goods, and if a net profit is not realized, he must, in many cases, depend upon future transactions that are profitable to reimburse himself.

To guard against this and numerous other disadvantages, the American consignee who still believes the advance system indispensable, has only one means of protection, and that is to be personally represented in Sicily during the entire shipping season by some reliable person sent from the United States who, being upon the spot, can regulate the advance from day to day according to the market, and, by personal inspection, be certain that he is getting the quality of fruit he contracted for.

With such a condition in vogue, the evils of the present system would be materially mitigated, but not abolished. That can never be until the system itself has passed out of existence. Complaints often reach Italy from the United States, but those who complain do not seem to realize that they themselves have furnished the clubs with which they are beaten.

CHAS. M. CAUGHY,
Consul.

MESSINA, *January 9, 1896.*

LEMONS AND LEMON ORCHARDS IN MESSINA.

In answer to a series of interrogatories propounded by California fruit growers, I have prepared the following report upon lemons, lemon orchards, and lemon curing. I have numbered my answers to harmonize with the series of interrogatories propounded by the inquirers above mentioned.

(1) *Pruning.*—The lemon trees are pruned about every three years, but the dead branches are cut off every June and October.

(2) *Irrigation.*—The land under lemon orchards is irrigated.

(3) *Cost of land.*—Uncultivated, but irrigable, land costs from 2,300 lire to 7,200 lire per hectare (the lira is equal to 19.3 cents and the hectare is equal to 2.471 acres). A full-bearing orchard would cost 23,000 lire ($4,439) per hectare (2.471 acres). The total annual expense of cultivating and manuring each tree is calculated at 10 cents for orchards having running water—that is, water from streams.

(4) *Bearing.*—The trees begin to bear in the third year. Orchards in this neighborhood are now about 25 years old and each tree averages 1,000 lemons. Old trees used to bear 3,000 to 3,500 lemons.

(5) *Preparation for market.*—Lemons for boxing are selected, with regard to size and quality, in the orchard. In November and December, lemons

weighing about 100 grams each (1 gram=15,432 grains) and in January of about 92 grams are selected, wrapped in paper, and packed in the boxes.

(6) *Curing.*—There is really no curing process. The boxes are simply stored on the ground floor of warehouses built of stone, because on wooden floors the lemons on the top and bottom layers in each box shrink. Curing and packing are done by the dealers, who purchase the yield of the orchards from the growers. The lemons, while being cured for market, are kept in boxes. The lemons cut in November and December are kept as late as April and May; the other cuts are not kept longer than a month. All curing houses are built of stone.

(7) *Picking.*—In October, November, and December lemons are cut green and stored, as before stated, but in the other months the fruit is well matured before it is gathered.

(8) *Labor.*—Pickers are paid 30 cents per day and packing-house employees 21 cents per day of ten hours.

(9) *Weight.*—The gross weight of a box of lemons, repacked, is 42 to 44 kilograms (92½ to 98 pounds).

(10) *Price.*—Green lemons are bought here at from 10 to 18 lire ($1.93 to $3.47) per 1,000.

(11) *Culls.*—Oversized lemons are packed in boxes or salted for confection purposes; the small and refuse fruit are used for essential oil or concentrated juice.

CHAS. M. CAUGHY,
Consul.

MESSINA, *February 29, 1896.*

THE POPPY AND OPIUM IN PERSIA.

I have the honor to transmit herewith a report upon the cultivation of the poppy and the preparation of opium in Persia. This report has been prepared to meet some inquiries from the Southern States, and is submitted with a view to its publication in CONSULAR REPORTS, so that the information contained therein may be at the service of those who are interested in the cultivation of the poppy and in the preparation of opium for medicinal purposes.

Opium is largely cultivated in Persia. About 6,000 chests, weighing each about 130 pounds, are exported annually, and it is probable that nearly, if not quite, an equal quantity is consumed in the country.

The opium poppy (*Papaver somniferum*) is by no means difficult to cultivate, but to bring it to a state of maturity to produce opium requires very considerable knowledge and unremitting care and attention. Indeed, it seems almost impossible, without a thorough knowledge of the state of the plant at its various stages and an unmistakable forecast of the weather, especially toward the time when the juice has to be collected, to even partially succeed.

All Persian opium is cultivated on irrigated land; consequently, the moisture is practically under the farmers' control. This is most important, as rain, when the plant is nearly at maturity, would be certain to destroy the opium elements. The quantity of moisture has to be most carefully regulated, except in the winter, when the plant is in a kind of quiescent state and independent of external influences.

The great difficulty which meets the amateur grower is to know the exact time when the plant arrives at maturity, for without this knowledge all his efforts will be frustrated and his outlay dissipated. All the plants on a plot will not mature at the same time, but each one has to be examined separately. If the incision for extracting the opium is made too early in the plant, nothing but a white sap will exude, and if too late, the juice will have dried up.

The following instructions, except when interfered with by climatic influences, should be carefully observed:

(1) Land intended for the opium crop should be plowed up in July, in order to free it as much as possible from weeds before sowing the seed.

(2) On irrigated lands (which are the best adapted for this crop), the whole surface must be laid out in terraces, larger or smaller as the land is flat or hilly, and each one must be surrounded by a small bank, say 6 inches high, so as to preserve a smooth and level surface, in order that the water may be turned on to an even depth. I have great doubts whether rain-watered land could be depended upon for the regular supply of moisture.

(3) The seed is sown broadcast, in September and October, on a level surface, and not on ridges. Previously to the sowing, the ground is cleared of stones and rubbish, as the plant can easily be obstructed in its growth.

(4) When the seed is sown, the water is turned on, and the ground is allowed to remain without any further operation for two or three days, until the water has become absorbed and the outer surface has had time to dry a little. The ground is then raked over so as to make a complete covering for the seed. If there should be no rainfall within a fortnight, the water is again turned on, and this is repeated at irregular intervals until the winter rains render it unnecessary. After the sowing and before the next watering most cultivators sprinkle manure all over the terraces. Almost any kind impregnated with strong alkaloids will do.

(5) In about six weeks from the time of sowing, the plants will have shot forth four or five leaves. It may, however, be two months, for the weather is occasionally cool, and this retards growth. They should then be thinned out, so as to stand about 6 inches apart in all directions.

(6) The plants are hardy and will stand the cold up to freezing point. During the winter no irrigation is needed; but here, from the end of March, the plants will have become vigorous and should have water, either by rain or irrigation, at the least every ten days, or, if the weather is hot, every six or seven days. Again, about this time or a little later, manure is spread be-

tween the plants in order to keep them strong and stimulate the sap. It is, of course, necessary, when the spring growth begins, to observe carefully the state of the plant and not give it too much water or it will grow out of all proportion and be utterly useless. The flowers will appear in May and will continue for about a fortnight. After the flowers begin to droop and until the opium matures is the most critical time, and a close observation of the plant has to be made so that a healthy condition may be maintained. A slight watering may be necessary, but the state of the plant must be the determining factor. For some few days before the plant matures no water should be given, and, if possible, not allowed.

(7) When the flower has fallen, the boll immediately below must be very carefully noted. When it assumes a light-brown color, darker than amber, it may be assumed that the poppy has matured. An incision diagonally across the boll from top to bottom should be made, and if the juice, of a dark-brown color, exudes, it is certain that the opium is matured. The incision should be made in the evening, and the opium which adheres to the stem of the plant should be removed before sunrise in the morning. In this country, the opium is collected into jars or ordinary cooking utensils and stored up at the cultivator's house until the harvest is finished. It must be carefully borne in mind that each plant must be examined before the incision is made, for, as stated above, there is a difference in time in the maturing of the plants—some earlier and some later. The plant ripens, if that expression may be permitted, about the end of May or beginning of June; but the time depends upon a variety of circumstances, although the variations are not great.

(8) The approximate number of plants per acre may be estimated from the distances they are apart, as given above. The Persians have no surface measurement equal to our acre, and seasons and crops vary so much that the average yield can not be easily estimated. In view of the heavy dues and taxes paid by the cultivators of the poppy, the risk they have to run from climatic considerations, and the fluctuations in the price of opium in the foreign markets, the profits are not much greater than from the ordinary cereals.

(9) The preparation of the drug for the market is usually undertaken by the merchant, and but rarely by the cultivators. This is a business quite distinct and requires a building and utensils generally beyond the reach of the producer. When the opium reaches the merchant, it contains a good deal of foreign matter, especially pieces of the stem of the plant, to which the opium adheres. These have to be removed, and then the opium undergoes a process of kneading and pressing, so as to get rid of the superfluous water. A little linseed oil is used in the process, and some kinds are largely diluted with it. The process of preparing for the consumer requires special knowledge, which is not communicated to everyone, and the value in China largely depends on its manipulation.

It would appear that if the cultivation of opium were taken in hand seriously, two skilled persons—one the cultivator and the other a kneader—

should be engaged to undertake the growing and the preparation for the market. Without these, I am afraid the enterprise would be a failure.

The climatic conditions of the Gulf States, I should say, would be favorable.

ALEXANDER McDONALD,
Minister Resident.

TEHERAN, *September 30, 1895.*

BEAN RAISING IN ONTARIO.

That portion of western Ontario bounded on three sides by lakes Huron, St. Clair, and Erie, with their connecting rivers, is one of the most fertile spots on this continent. Lying but a few feet above the lake levels, it rarely suffers from drought, while the rich, black, loamy soil is not only remarkably rich, but the section of country, as a whole, escapes all violence of the elements that might destroy its crops. Large areas have been reclaimed by drainage, and a tract of about 30,000 acres, formerly worthless marsh, has been recently added to the cultivable land and proven as rich as any in the peninsula. While enough fall wheat is raised to supply the large flouring mills at Chatham and neighboring places, which send the bulk of their product to the maritime provinces, beans, oats, and barley are the crops which constitute the most of the agricultural exports to the United States. Sometimes barley, as, for instance, in 1895, is not of the quality desirable for malting purposes, and little was exported last year. Exports of oats fluctuate more or less, but two-thirds of the beans must go to the United States in order to find a market, and the area planted is growing larger every year. Of the 827,514 bushels raised in Ontario in 1894, not less than 448,813 were grown in this county (Kent) on 35,905 acres, an average of 12.5 bushels per acre. A large quantity never came to maturity, owing to the unprecedented drought of that year, but the crop of 1895, with the largest acreage yet planted, is something enormous, estimated by local bean growers and dealers at about 40,000 acres, averaging 20 bushels per acre, or a total of 800,000 bushels, in Kent County alone. The Ontario crop report states the total acreage in the Province to have been 72,747, producing 1,494,179 bushels—a remarkably successful crop. This great yield happens to be coincident with an unusually large crop in parts of the United States, and the price has consequently ranged very low, running from 60 to 90 cents per bushel, according to the United States market and local demands. The farmers are not offering very freely and the bulk of the beans to be exported will probably not be moved until spring. So far as it is possible to approximate the exact proportion, only about one-fourth of it has already been shipped and the remaining three-fourths may have to be sold on a falling market, as the increase in this crop in Michigan has been 300 per cent in the last few years, and New York and California raised more in 1895 than they ever did before. The late spring and early summer may see best quality Canadian beans for sale in New York for less than $1.35 per bushel, duty and freight paid.

Ohio beans are often several weeks later than beans on this side of Lake Erie, and last fall their early market was filled with those from this county. Dealers in that State expect to import about 100 carloads more as soon as navigation opens.

During the thirteen years 1882–1894, lands planted with beans in this Province have averaged 16.7 bushels per acre, and it is safe to say that the farmers have realized on an average over $1 per bushel, which is better than wheat at 50 or 60 cents. During that time, local dealers have resold them at from $1.25 to $1.50 free on board here, barrels or bags included, which cost about 5 cents per bushel. Of course, most of them have to be picked over to get rid of dirt and discolored beans before they are bagged or barreled for export. This work gives employment to a large number of women and girls, mostly negroes, who are paid from 2 to 8 cents per bushel for "hand picking." Their weekly earnings average between $3 and $4, though very active and industrious pickers will make $4.50 or more. Dealers estimate the total cost to them of hand picking, elevating, and storing at 10 cents per bushel, but in some years, as where summer rains have spattered mud on them and discolored them after the pods have opened, the cost is as high as 15 cents.

Believing that there are many parts of the United States in which beans can be grown with success, I beg to add a description of the methods followed by the most scientific farmers in this country, as described by one of them:

> Bean growing is usually profitable when a full crop can be secured. Before outlining the style of preparation common here, I may say beans will stand up under rough treatment with greater resistance than any other grain. In the extremes of excessive drought or excessive dampness, they are a disappointment. The vines are tender and are as easily ruined by frost as the tomato. Assuming that the field to be planted is the richest on the farm and fairly well drained, it should be fall plowed—early spring plowing might do. The soil should be cultivated once a week until planted, by which process a fine seed bed will be secured and all foul seeds killed before planting. Frequent tillage is of the utmost importance before the seed is deposited, as much after labor is saved, in addition to having the plant food available for the crop. No exact time can be fixed for seeding, as seasons vary, but a few days on either side of June 1 is the best in this latitude. When the surface of the soil is moist, a planter is the best instrument to use, but if dry for 2 inches down, then use the drill, for the reason that damp earth must receive the seed before germination can be uniform and perfect. Care should be taken with the roller at this time. Some farmers roll after planting, but it is risky, as if a heavy rain falls soon after rolling some soils will bake so badly that a replanting may become necessary to get a proper stand. As to quantity of seed, 3 pecks is usually enough. The crop should be cultivated three or four times with one light hoeing, the hoeing being left until the vine is fully grown. Cultivating should not be attempted when the vines are dry, or rust will appear. If work is done after blooming takes place, damage will result. The crop is now able to take care of itself until ripe.
>
> When two-thirds of the pods are yellow or are fully matured, cutting should be commenced without delay. All other farm work ought to be suspended for the time and harvesting pushed with all possible speed and with all possible help. Enough hands to keep up with the cutter is the correct way, for if rain falls to any extent on the unforked beans, twice the labor is required to get them out of the mud, the straw is damaged and the beans clouded.

If the straw is very heavy, the rows or bunches are better for two days' sun on the under side, hence turning is necessary. With fair weather, from five to seven days should elapse after cutting and the crop is then in fit condition to be drawn off the field and stowed away in barn or stack. Since the advent of machinery, bean harvesting is agreeable work; the old hand-pulling labor is done away with. When the crop is housed, thrashing may be done as soon as convenient, if it is intended to place the beans on the market; if not, leave them in the straw, for beans often become musty if left in the bin any length of time. As a rule, the earlier the beans can be marketed the higher the price.

The pea is better than the medium and has proved itself well adapted to our climate. Thirty-three bushels per acre were raised on one farm near Chatham and sold at 95 cents per bushel last year. The New York market slightly favors the medium; Boston prefers the pea, and is the largest distributing center, while Philadelphia rates the varieties equal. The future of the bean business in Ontario is uncertain. Last fall, the large crop in California overflowed further east than the Mississippi and helped make the price only 70 cents here. Many good farmers will not grow beans and too many are grown on some small farms. Many believe the bean a grasping tenant, leaving besides his rent nothing but a clean field and three-fourths of a ton of inferior fodder with which to renew the severe drain on the soil.

The claim made by Canadians that their beans are superior to those grown elsewhere I can not concur in, though they are very good and seem to me to be of the same quality as those grown in New York. The United States imports yearly from Europe and the Canadian provinces an average of 1,000,000 bushels of beans, every one of which could be raised as profitably and of the same quality at home. Improved machinery and a rich soil will show it to be more money-making than wheat or corn, and the view expressed above that it soon exhausts the soil is not substantiated by experience here, although some farmers prefer to take no chances, and therefore manure slightly every year.

EDWIN F. BISHOP,
Consul.

CHATHAM, *January 30, 1896.*

PLUM CULTURE IN BOSNIA.

The Government of Bosnia and Herzegovina has published a paper on "The Bosnian plum," by Dr. Theodore P. Zurunic, vice-secretary. From this interesting statement, I extract the following information:

The consumption of fruit is increasing from day to day, both in Europe and elsewhere. Among the varieties of fruit which give a comparatively large return at a small expense of capital and labor, the first place may be assigned to the plum; consequently, this fruit is cultivated very largely wherever climate and soil are favorable for its production.

Bosnia holds a prominent position at present among the plum-producing countries. The northern part of this province is chiefly concerned in the production, as in this district the two most important factors in the cultivation of the fruit are favorably combined. With respect to climate, as a rule, the days are warm, and are followed by cool, dewy nights; and, as regards the soil, this consists of a calcareous loam, which is drained by numerous streams and supplies the trees with sufficient moisture at every season of the year. Thus a special variety of plum has been developed in this district, bearing a fine, large fruit, which, when fully ripe, contains a very high percentage of sugar.

The annual production is considerable; in 1894, it amounted to 183,111 tons. The quantities for the four previous years were 70,960, 93,990, 89,561, and 128,043 tons, or an average of 95,639 tons.

Many of the plums are consumed fresh; others are used for making brandy, liquor, or jam; the majority, however, are dried. The latter are especially important, as they have long been a world-famed article of export.

Bosnia having been so little known to the other countries of Europe before the year 1878, the plum trade, as commerce generally, was connected with many difficulties. The new conditions which have grown up in this country since the government was taken over by Austria-Hungary, the security of property, the numerous new roads and the greater facilities for traffic, the increased protection of the law, and the inclusion of Bosnia in the general tariff system of the Monarchy, have given a remarkable impetus to the trade of the country and brought it into close connection with international commerce.

The plum production of Bosnia having been very considerable even before 1878, and the dried Bosnian fruit having been well known under the name "Turkish plum," and in great demand, not only in Europe, but also in America, the new Bosno-Herzegovinian Government made great efforts from the first to improve the fruit and increase its sale. Accordingly, experimental stations were established, which may be looked upon as nurseries for fruit culture, and which, though instituted only a few years ago, have already considerably increased the production. Moreover, very favorable results have followed from the introduction of new drying ovens after the French pattern.

It is only since the government was taken over by Austria-Hungary that efforts have been made to improve the fruit culture in general, and especially to increase the production of plums and to develop the trade in this article. The Bosno-Herzegovinian Government has determined to improve the cultivation in such a manner as to enable the Bosnian fruit, which enjoys already a great popularity in the market, to take an absolutely unrivaled position in the near future. The export trade in this fruit has been furthered in every possible way, considering the short time since the government was assumed by Austria-Hungary and the naturally great difficulties of a general process of transformation, such as is taking place in Bosnia and Herzegovina. The Government is continuing to take all available measures to see its efforts in this matter, so important for the commercial prosperity of Bosnia, crowned with success equal to that which has attended its other undertakings in promoting the welfare of these countries. As a result of these efforts, the export of plums is ever increasing and the average price of the dried fruit is constantly rising, which facts show that not only has the production increased, but the quality of the fruit has also been improved.

THEODORE M. STEPHAN,
ANNABERG, *October 16, 1895.* *Consul.*

POTATOES AS FOOD FOR CATTLE AND SHEEP.

In the agricultural review of the Journal des Debats, D. Zolla reports some interesting tests on the use of potatoes as food for cattle and sheep, which are of general interest here, and as potatoes are much cheaper in the United States than in Germany, the profit on the increase in weight would necessarily be larger. The tests gave such satisfaction here that I think it of sufficient importance and interest to give herewith a report of how they were made and the results. In the first place, these tests were made to ascertain whether, by using potatoes as food for cattle and sheep, a better profit could be derived from the potatoes thus used than from their usual sale to the manufacturers of spirits and starch.

The animals, cattle as well as sheep, for these trial tests were divided into three lots. The first lot were fed on equal rations of beet root and hay; the second, on equal rations of potatoes and hay; and the third lot got a larger ration of potatoes. By the first two lots, the idea was to ascertain the comparative merits as to increased productive powers of "taking on flesh" as between beet root and potatoes; the third was for the purpose of demonstrating the effect of an increased allowance of potatoes and to show the limits within which potatoes could be judiciously and usefully employed as food for flesh-gaining purposes.

The potatoes, with one exception, were first boiled, and the results demonstrated the merits and nutritive powers of potatoes over beet roots as 200 pounds to 100 pounds per head. The first lot of cattle were fed 110 pounds of beet root or 55 pounds of boiled potatoes mixed with 11 pounds of chopped fodder and 16 pounds of chopped hay, to which was added 30 grams of salt.

The first lot of sheep were fed 9 pounds of beet root or 4½ pounds of boiled potatoes with 1 pound of chopped fodder and 2 pounds of chopped hay, also with 30 grams of salt.

The increased ration of potatoes was 66 pounds for the cattle and 6½ pounds for the sheep.

The result of the cattle tests were as follows, before and after sixty-one days' feeding:

Lot.	Feed.	Weight at first.	Weight at close.	Increase.
		Pounds.	*Pounds.*	*Pounds.*
1	Hay and beet root	5,264	5,664	400
2	Hay and potatoes	5,106	5,652	546
3	Increased potato ration	5,207	5,816	609

It was therefore conclusively proven that feeding with potatoes was of much more value in taking on weight than feeding with beet roots. In the continuation of the tests, all the animals were fed with potatoes, and, in addition thereto, 4½ pounds of oil cake were added. In ninety-five days, the cattle of the first lot, fed with beet roots sixty-seven days and on potatoes twenty-eight days, showed an increase in weight, per head per day, of 2 pounds; in eighty-one days, the cattle of the second lot, fed with the medium ration of potatoes, per head per day, 2¼ pounds; in eighty-one days, the cattle of the third lot, fed with the increased ration of potatoes, per head per day, 2¾ pounds.

Better results were obtained with sheep, which were divided into four lots. The first lot (ten sheep) was fed with a medium ration of beet roots and hay, as stated above; the second lot (ten sheep) was fed with the medium ration of potatoes and hay; the third lot (ten sheep) was fed the increased ration of potatoes and hay; the fourth lot (three sheep) was fed raw potatoes, and the amount given was 6½ pounds of potatoes and 2 pounds of chopped hay per day, with the following results:

Lot.	Feed.	Weight at first.	Weight at close.	Increase.
		Pounds.	*Pounds.*	*Pounds.*
1	Beet root and hay	838	924	86
2	Potatoes and hay	855	1,023	168
3	Increased potato ration	774	1,117	343

This shows a double increase in the second lot in favor of potatoes over beet root, and a double increase in the third lot over the second lot in favor of the increased ration of potatoes.

The tests with the sheep covered a period of one hundred and sixteen days and showed the remarkable result of doubling a sheep's weight in that time on a potato diet. The fourth lot, fed on raw potatoes and hay, was only remarkable in showing the inferiority of raw to cooked potatoes.

These tests not only thoroughly demonstrated the fact that potatoes are a first-class food for cattle and sheep for flesh-gaining purposes, but the meat was found to be of most excellent and superior quality.

PERRY BARTHOLOW,
Consul.

MAYENCE, *December 28, 1895.*

AMERICAN VS. EUROPEAN INTERESTS IN SOUTH AMERICA.

In a dispatch concerning the trade relations of the United States with South America, dated October 12, 1895, Mr. Thomas L. Thompson, United States minister to Brazil, says: As bearing prospectively on the interests of our country commercially with the South American states, I have the honor to submit some observations, based upon statistical and other data, which, I trust, may be found worthy of the Department's consideration. Since the substitution of a high protective tariff for the revenue laws under which our commerce with other nations prospered prior to 1860, the shipping interests of the United States have fallen to an alarmingly low ebb, while those of other great powers are on the flood tide of commercial prosperity.

Undoubtedly, the proscriptive burdens laid upon shipping have brought about this result. Prior to the enactment of laws which have driven our merchant marine from the seas, the tonnage of American shipping exceeded that of any other nation; to-day, the Stars and Stripes are rarely seen in any port.

A contrast of our shipping with that of other great nations was strikingly exhibited in the port of Rio de Janeiro at the time when force was manifested by Admiral Benham to release 5 American ships from the illegal restraint to commerce set up by Admiral Saldanha da Gama, while at the same time it opened the way to the custom-house to over 100 British ships, besides a greater number of German and French and Belgian ships than ours.

During the year 1851, 524 American vessels visited the port of Rio de Janeiro, against 370 British vessels for the same period.

The blockade under Da Gama in 1893–94 lasted about sixty days, at the end of which there were in port only 5 vessels carrying the American flag and over 100 British sail and steam vessels. This is comparatively a fair representation of the carrying capacity on the high seas of the two leading nations of the world. It was the loss of this carrying capacity (our merchant marine) which cost the United States the commerce of South and Central America.

Simultaneously with the growth of British shipping and the decadence of our own, South American commerce has been built up under European influence and no tangible effort made to direct it by natural channels to the United States.

England, Germany, France, Italy, Spain, Portugal, and Belgium each have large colonies in the South and Central American republics, whose zealous efforts to direct trade to their native countries, from a patriotic standpoint, is commendable. We have no native contingent in business here to speak of, being represented in the carrying trade and mercantile and other commercial pursuits only through the representatives of European capital, which, it is fairly estimated, constitutes two-thirds of all that is engaged in commercial traffic and the development of the vast natural resources of this Southern continent. When we contemplate this condition, together with the fact that the external public debt of these republics is also European capital, owned mostly in England, it is not surprising that Great Britain, encouraged by the sympathy of other European powers who have with her a common commercial and financial interest, should become aggressive to the extent of gaining a greater foothold.

It is certain something should be done to meet this already dominating and rapidly increasing European influence in South and Central America, and it seems to me it can only be accomplished through the improvement of our commercial relations with these republics, the rehabilitation of lost American transportation, and the intelligent efforts of our enterprising merchants and manufacturers in establishing trade relations with them.

Discussing our trade relations with Brazil, the Philadelphia Record, of August 15, published an otherwise intelligent article, which contains the misleading statement that "the largest share of Brazil's imports come from the United States." On the contrary, we do not supply a twelfth part of the foreign goods consumed in Brazil. Considerable alarm was occasioned in England by the serious injury which, it was feared, might result to British trade from the customs convention between the United States and Brazil recently terminated; but the operation of the reciprocity treaty proved by results that the alarm was unwarranted. Secretary Blaine figured out a possible increase of over $50,000,000 in the value of the exports from the United States to Brazil on account of that treaty, but the result showed a decrease in the aggregate of exports from the United States and a greater percentage of increase in some special lines of British exports to Brazil, notably cottons. Since the abrogation of the reciprocity arrangement, the fiscal year ending June 30, 1895, showed an increase of exports and a falling off of imports, but the balance of trade will continue to be overwhelmingly against us until the chief obstacles which embarrass our trade with Brazil and other South American countries—the lack of direct steamship lines and exchange facilities—are overcome.

HANKOW TEA TRADE.

I have the honor to transmit some statistics, taken from the annual report of Messrs. Evans, Pugh & Co., of this city, covering the tea trade of Hankow for the calendar year 1895.

The supplies for the last three years are given as follows:

Description.	1895.	1894.	1893.
	Pounds.	*Pounds.*	*Pounds.*
Hankow district teas	55,717,480	50,975,232	48,226,480
Kewkiang district teas	19,616,649	15,956,411	16,366,533
Total	75,334,129	66,931,643	64,593,013

The exports for the same years are given as follows:

Whither exported.	1895.	1894.	1893.
	Pounds.	*Pounds.*	*Pounds.*
Great Britain, direct	3,283,443	6,876,185	8,918,962
Russia, direct and via Shanghai	27,219,817	22,468,247	21,809,270
Tientsin, direct	3,735,828		
Tientsin via Shanghai	24,002,173	21,791,887	16,935,604
United States and Canada, direct	7,407,300	6,995,298	6,078,986
Total	65,648,621	58,131,617	53,742,822

Under the head of freights, the report states that 1895 was the first year that only one steamer loaded for England direct, at £3 10s., although the rate via Shanghai was only £3, and even this was reduced to 55s. after the end of August. For Odessa direct, via the Suez Canal, seven steamers loaded on private account, against eight in 1894.

Shippers to London have been much interested in the question of freights, which, under the combination of the different steamer lines, have been maintained at a high figure throughout the season. London is now placed at a great disadvantage, as compared with other ports, say Odessa, Hamburg, and New York, to all of which shipments from China can be made more cheaply, and the continued heavy taxation which high freights place on a rapidly declining trade tend all the more to hasten its end.

The following statement shows the provinces and districts in which the teas received at Hankow are raised:

Receipts of tea.

Provinces and districts.	1895.	1894.	1893.
Oopack province:	*Half chests.*	*Half chests.*	*Half chests.*
Sung-yong	24,820	25,569	25,884
Yang-low-toong	97,015	86,557	79,527
Tong-shan	34,984	28,013	29,810
Ko-kew	68,146	60,076	61,281
Ma-kew	8,420	6,540	8,000
Tai-sa-ping	10,842	3,556	4,501
I-chang	12,470	9,602	6,996
Total, Oopack	256,697	219,913	215,999
Oonahm province:			
Oonfaa and Toyune	260,567	233,165	206,381
Seang-tam	74,636	74,263	71,345
Chong-sow-kai	64,683	52,122	51,550
Ly-ling	25,211	19,389	17,674
Ping-kong	16,171	17,818	18,676
Nip-car-see	38,377	39,835	38,669
Low-yong	35,492	22,287	14,280
Wun-kai and Bek-kong	29,831	30,341	34,508
Yang-low-see	7,503	4,825	5,041
Wei-san	1,851	1,232	4,637
Total, Oonahm	554,322	495,277	462,761
Total, Oopack and Oonahm	811,019	715,190	678,760

In addition to the foregoing, the report states that 307,515 and 247,964 half chests of Kewkiang and Wenchow teas were received at Hankow and Kewkiang in 1895 and 1894, respectively.

Encouraged by the profits made in 1894, adds the report of Messrs. Evans, Pugh & Co., the Chinese entered with more confidence into the preparations for the new season's business. To this were added favorable weather and low rates of exchange. The result was very keen competition, running the prices of first crop laid down in Hankow higher than has probably ever been known before.

JACOB T. CHILD,
Consul.

HANKOW, *January 11, 1896.*

PRODUCTION OF SALT IN RUSSIA.

When rich deposits of salt were discovered and reported at Bardymkul, in the region of Ferghana, Turkestan, in the fall of 1895, Belgian capitalists, without delay, sent out their engineers to investigate the strength of the beds and to report thereon. The examination not only confirmed what was claimed before, but proved the beds to be richer than at first described. The engineers estimated that an area of 2 square versts* contained a milliard poods (36,112,000,000 pounds) of salt. As soon as the engineers submitted their report, the capitalists procured, at the close of 1895, a permit from the Russian Government for the working of these salt beds. This they readily received, because, just at that time, the new regulations of the Ministry of the Interior, concerning the leasing of Government salt beds, came into force. The company began work in January, 1896.

As before stated, these salt deposits are situated on the lake of Bardymkul, in the neighborhood of Chodjent, in Ferghana, Turkestan. The salt is gained by dynamite explosions, then put into bags and sent, by camels, to Samarcand, 239 miles, and thence, by the Transcaspian Railway, distributed to the different towns on this line, and, also, over Usun-Ada, as far as Astrakhan, and to Kura, mainly for salting caviar.

The salt is of excellent quality, as, according to an analysis, it is superior to the best quality of English salt. It is especially fit for salting caviar and sausage casings, because it leaves no spots after the salting.

Russia imports about 1,500,000 poods (54,168,000 pounds) of foreign salt through the ports of the Baltic Sea, which this company now hopes to supply, because it expects to be able to deliver the Russian salt at St. Petersburg at 2.40 rubles per pood. This price will be the same as is paid for the best English salt, with the difference that the English salt contains a percentage of other chemical substances, whereas the Bardymkul salt is entirely pure.

For 1896, the production is calculated at 6,000,000 poods (216,672,000 pounds), of which 4,000,000 poods (144,480,000 pounds) are estimated for local consumption in Central Asia, 1,500,000 poods (54,168,000 pounds) for the Baltic ports, and 500,000 poods (18,056,000 pounds) for the salting of caviar and sausage casings.

It is the intention of this company to supply India with salt. India offers an immense market, having no salt of its own. It is stated that the 80,000,000 poods (2,888,960,000 pounds) which are yearly imported are not sufficient to supply the demand, it being claimed that about 200,000,000 poods (7,226,400,000 pounds) are required.

Salt imported into India from England has to pay an excise duty of 1.13 rubles per pood.† Salt costs in India, without the excise, 3.87 rubles per pood. Under these conditions, the company will have an excellent chance for a large sale of salt in India, because it can have the salt transported, at cheap rates, through Samarcand, Usun-Ada, Baku, Batoum, etc. It will have a still better chance after the Samarcand-Kokand-Marghelan Railway, with a line to Krasnovodsk, on the Caspian Sea, is built, for the salt beds will be only from 13 to 15 miles from the railroad station at Potar of the new line and 1,100 miles by rail from Usun-Ada. On the 1st of May next, on the Transcaspian Railway, a new reduced tariff of 23.45 copecks per pood for all kinds of freights from Samarcand to Usun-Ada will go into force. From Usun-Ada to Baku, the freight on salt amounts to only 4 copecks per pood. Such cheap freight rates will give the Bardymkul company an advantage in both the home and foreign markets.

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*1 verst=0.663 mile.

†The duty on salt all over India, Burmah excepted, whether taken in the shape of customs or excise, was, in 1886-87, 2 rupees per maund (82$\frac{2}{7}$ pounds).—CONSULAR REPORTS No. 101 (January, 1889), p. 26.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 20, 1896.*

NEW RAILROAD STATION IN DRESDEN.

I transmit herewith a report on the construction of an elevated railroad and the building of a central or union station in the city of Dresden. The cost and magnitude of these works and the material and manner of construction may prove interesting to those who are engaged in similar enterprises in the United States.

I am indebted to Mr. Otto Klette, the chief engineer of the works, for the accompanying maps and drawings* which illustrate these great works.

The drawing of the central passenger station looks like some of the vast buildings of the Columbian Exposition at Chicago, but does not give a clear idea of the magnitude of these buildings, as the freight depots, engine houses, and other buildings are not represented.

It is claimed by the authorities here that when these buildings are completed, they will cover a greater area than any other railway station in the world. The foundations are built of granite, the first story of sandstone, and the arches and domes of iron and glass. The sandstone is quarried and dressed and each stone numbered on the River Elbe, a few miles above Dresden, and brought down the river, and put into place without the sound of the mallet and chisel. The iron is manufactured at Dortmunder and Oberhausen, in Rhineland, and is brought here ready to be put in place securely by bolts and rivets, and the noise of the hammer on the iron makes up for the silence of the mallet on the stone.

The area of these buildings, side tracks, and yards is, in round numbers, about 560 acres, and the length of the tracks is about 169 miles.

The estimated cost of these works is 53,776,000 marks (about $12,800,000).

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*Filed in Bureau of Statistics, Department of State.

When the cheapness of labor and material here is considered, together with the fact that the work is done under the superintendence of the Government, which exacts a rigid account of every mark spent, we can form some idea of the magnitude of the enterprise.

Labor is employed by the hour. The iron workers are paid 30 pfennigs (7.14 cents) an hour; the stone masons, 38 pfennigs (9 cents). The carpenters are paid at the same rate and the common laborers 27 and 28 pfennigs (6.43 and 6.66 cents). They all receive about double the amounts named for working at night or extra hours.

This work was begun in 1892, and it will take several years to complete it. The railroads of Saxony are owned by the Government and are managed with as much discipline as the army.

The maps show Dresden as a common center of all the Saxon railways. Heretofore, each road had a separate terminus or station in the city, widely separated from all others, which was very inconvenient for the traveling public. In the future, all of the roads will have a common center and each one will be practically a through line to every point in Saxony, as well as to all points on the Continent.

The first story of the vast central station is used for ticket offices, baggage rooms, cafés, shops, etc. The trains run over these on elevated tracks and under the huge domes and arches of iron and glass. The freight tracks and depots are separate and independent of the passenger lines. All the trains come and go or move with as much system and regularity as the wheels in a watch.

The history of the Saxon railways shows that in 1853 they carried 451,232 passengers, at an average cost of 2.25 marks for each person, and that in 1893, they carried 4,657,702 persons, at an average cost of 1.01 marks.

The practical investor will ask, How can the Kingdom of Saxony afford to spend so much money on works of this kind, and how can the roads ever pay the interest on the money? I take it that the work is done by the Kingdom for its general benefit and that the question of interest on the money is not considered, as I am informed that all the money required was raised and put into the treasury before the work began, and that there will be no water-soaked bonds and stock of these works found floating in the markets and on the stock exchanges of the world.

WM. S. CARROLL,
Consul-General.

DRESDEN, *February 6, 1896.*

ELECTRIC STREET RAILWAYS IN DRESDEN.

Dresden is to emulate Hagen, Vienna, and other cities in their efforts to get rid of the overhead system of electrical railways. Experiments are being made with both methods with accumulators and underground wires. Two accumulators, each drawing a large passenger car, are now running over one section of the city, while the underground method is to be tried over another. It is hoped that the ugly looking wires, posts, and lines will be removed. The heating is to be by electricity also, experiments with porcelain cylinders having demonstrated its practicability. The system has been tested with most satisfactory results. It consists of a porcelain cylinder bound round with wires, which an electric current heats to a white heat. The air coming in contact therewith is warmed and afterwards, driven out by the colder air from other parts of the car, keeps up an almost uniform heat all through the car. These cylinders are about 5 centimeters (1.96855 inches) wide and 20 centimeters (8 inches) long, and so cheap that every car can easily carry one or more.

The street railway here has the overhead system. It has thus far given satisfaction and has paid its builders huge profits; I know of no enterprise in the city that pays so well. It was believed that the wires would wear out or pull out from the walls, the system being one of wires hung from rosettes of iron anchored by means of cement into the walls of houses. Two years have passed, weather and vibration have done their worst, and yet the wires hang as taut and firmly as at first. Because of the gloomy forebodings, I have watched this system with a great deal of interest. It has much to commend it to cities bent upon having an overhead system—it does away with the poles. Its chief objection is the danger in case it falls and the difficulties in case of fire.

ELECTRICAL LIGHTING.

Chemnitz has put in accumulators for electrical lighting. They consist of cylindrical columns, similar in shape to steam boilers. They are about 12 feet high and 5 feet in diamerer. They are distributed all over the city, and are so situated as to make it almost impossible for the light to fail, even should anything happen at the central station to cut off the current. They act as reservoirs, holding huge quantities in storage. They are ornamental rather than ugly, and serve their purpose well.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 25, 1896.*

PROPOSED MARGARIN LAW IN GERMANY.

There is now before the Reichstag a law to regulate the manufacture and sale of margarin, which is of considerable importance to the dairy industry in Germany, and may affect the American tallow and cotton-seed oil export trade. The proposed law is said to have its origin with the Agrarian party, who desire to limit the sale of margarin, which is assuming large proportions, in favor of the butter manufactured by them. Many protests in the shape of petitions, bearing thousands of signatures, have been addressed to the Reichstag against the adoption of antimargarin legislation.

The law proposes to enact the following regulations:

(1) All shops where margarin, margarin cheese, or artificial table butter is offered for sale must display in a conspicuous place an inscription, "Sale of margarin," etc.

(2) Mixing butter and margarin and offering such mixtures are forbidden.

(3) Margarin manufacturers must inform the proper authorities of the place where the margarin is made, packed, and offered for sale, and the persons who are engaged in its manufacture.

(4) The police are authorized to enter the places of manufacture or sale at any time, and to select and remove samples for chemical analysis.

(5) The manufacturers are bound to furnish the police, upon request, particulars as to the manufacture, extent of production, and origin and quantity of raw material.

(6) Butter, cheese, etc., must not be made, stored, or packed where margarin, margarin cheese, etc., are made, stored, or packed. (This does not refer to retail shops, where it is required that margarin and margarin products be kept separate from butter, etc.)

(7) Margarin, if sold in forms, must be in the form of cubes imprinted with the word "margarin;" the wrapper must also bear the same mark. In all invoices, bills of lading, and advertisements, it is to be called "margarin."

(8) The Bundesrath is authorized to forbid the sale of butter containing more than a certain percentage of water.

A committee appointed by the Reichstag to consider the bill have reported, favoring the following additional clauses:

(1) All margarin for home consumption is to be colored red or blue, so that it may at once be distinguished from butter.

(2) It is forbidden to color it yellow; the natural gray-white shade must be preserved.

The manufacture of margarin, which was invented by a French chemist during the siege of Paris in 1870, has assumed great proportions in Germany, where now 80,000,000 kilograms, valued at $20,000,000, are annually produced at eighty-five manufactories, supplying a good and cheap fat. The production of natural butter in Germany is about 800,000,000 kilograms, that is, ten times the amount of margarin. This quantity is augmented by 120,000,000 kilograms imported from Denmark, Sweden, and Hungary; but, on the other hand, Germany exports butter to England, though in small and steadily decreasing quantities, viz, in 1893, 10,500,000 kilograms; in 1894, 9,000,000 kilograms; in 1895, 7,400,000 kilograms. Denmark supplies the English market with eight times this quantity. While butter costs from 1 to 1.25 marks (23.8 to 29.75 cents) per pound, margarin is retailed at 75 to 80 pfennigs (17.85 to 19 cents), which means a great saving for the workingman.

In Germany, margarin of the better class consists of oleomargarine, with an addition of 20 per cent of sweet oil; second-class margarin is made with oleomargarine and 40 per cent of cotton-seed oil. A new system now in vogue is to add 12 to 25 per cent of milk to the oleomargarine, which forms the most substantial part of margarin proper.

The supporters of the law say that something must be done to make the many imitations of butter easier to detect and their manufacture next to impossible. Statistics of butter examinations prove that 4 to 5 per cent of so-called butter was made with the addition, to a smaller or greater extent, of margarin. It is further adduced in support of the law that the increasing manufacture of margarin will damage the German farmers and be a source of profit to America, as the United States export to Germany a great quantity of the raw material used in the manufacture of margarin, viz, in 1892, oleomargarine, valued at $2,371,000, and cotton-seed oil, valued at $538,000. The former is the most convenient substitute for beef tallow. Germany can not produce the necessary quantity of tallow, owing to the small scale on which cattle breeding is carried on; therefore, she must have recourse to American tallow or oleomargarine. Here, they urge as another reason the fear that the American tallow may be procured from sick or diseased animals, it being claimed that proper public supervision is not exercised in the United States, as is the case in Germany.

The opponents of the law assert that the margarin industry requires and buys from the German farmers a great quantity of raw material, viz, milk to the value of $2,500,000 is annually used in the manufacture of margarin, as well as tallow, the quantity of which can not be given. The proposition to color the margarin blue or red would have the effect of disgusting the consumers and lead many families to return to butter for the sake of appearance, they not being willing to be seen eating the colored margarin, thus forcing them to live less economically than they can live now that no such law is in force. They contend that this will deepen the contrasts between the social classes, as, for instance, school children with blue-margarined bread as their breakfast would be mocked by their comrades who have been supplied with buttered bread by parents enjoying a better financial situation.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *February 22, 1896.*

SAULT STE. MARIE AND THE "SOO" CANALS.

Sault Ste. Marie, Canada, is a town of about 3,500 people, situated on St. Mary's River, at the extreme eastern end of Lake Superior, in the district of Algoma, Canada. For over one hundred years previous to 1850, it was a Hudson Bay post only, devoted to the fur and fish trade. It is now a place of considerable commercial importance. To pass the falls in the river at this place, the Canadian Government, in 1895, completed the "Soo" Canal, through which vessels of any size drawing not over 20 feet of water can pass to and from Lake Superior.

Sault Ste. Marie is the center of quite important fisheries, which are carried on in the vicinity. A mill for the manufacture of wood pulp is now in operation, with a capacity of 100 tons of pulp a day. Another mill of the same size is now being built. Sault Ste. Marie has advantages for certain manufactories by reason of its great water power. At this point, a branch of the Canadian Pacific Railway, coming from Sudbury, crosses the river to

"Soo," Michigan, on an iron bridge built at the head of the rapids and connects with the Duluth and South Shore and Minneapolis roads. The "Soo" is the western terminus of several lines of boats running from points on Lake Huron.

CHARLES McCALL,
Commercial Agent.

SAULT STE. MARIE, *March 4, 1896.*

DESCRIPTION OF THE "SOO" CANALS.

Commercial Agent McCall transmits a copy of the Toronto Globe, of October 26, 1895, containing an article on "The Canadian 'Soo' and the great canal," which says:

In many respects, Sault Ste. Marie, which present-day proneness to abbreviation has reduced to "the Soo," is a wonderful place. There canal building has reached its highest exemplification on this continent, and the volume of shipping daily at its gates is something to astonish those not familiar with its great and eager activity. There, too, is a water power second only to that at Niagara Falls, a water power destined to play an important part in the future of this locality, so favorably placed to achieve greatness. Since early times, long before the English set foot in these northern regions, Sault Ste. Marie has been an important point of commerce. In the old fur-trading days, when the lakes and tributary steams were the chief, and it may be said the only, avenues of communication between the East and the West, the traffic of the lakes converged there, as it does now, growing with the years, until at the present day the trade demands the services of an immense fleet of many million tons register to accommodate it.

At Sault Ste. Marie occur the rapids, where a fall of 18 or 19 feet in half a mile furnishes an immense water power, but totally obstructs navigation; and from early days in the history of the country some form of canal has been in use.

THE AMERICAN CANAL.

The present American canal was commenced in the fifties, and for years it met all requirements for Canada as well as for the United States. Previous to the opening up of the Northwest and the building of the Canadian Pacific Railway and the consequent growth of ports on the north shore of Lake Superior, there was little need for a canal on Canadian soil to furnish an independent route to that lake, for the trade of the lower provinces with the upper lakes was inconsiderable. In 1870, occurred the insurrection at Fort Garry under Riel, an insignificant affair as now regarded, but at the time a very grave matter, as it threatened, if not summarily suppressed, to render difficult the possession of the land that the Dominion Government had acquired from the Hudson Bay Company at large outlay. It was imperative that authority should be established there, and that quickly. A military force, under the command of Sir Garnet Wolseley, was ordered to the scene to quell the emeute without delay. The United States Government refused to permit a Canadian military force or munitions of war to pass through the Michigan canal, and in consequence the expedition was conducted at greatly increased cost in labor, time, and money.

MOVEMENT FOR A CANADIAN CANAL.

For the first time the want of an all-Canadian water route connecting the lower with the upper lake ports was severely felt; but with the suppression of the rebellion and the return of the troops this feeling passed away, and although the question of the advisability of providing such a route was raised at intervals, yet it was not until 1888 that practical steps were taken by the Parliament of Canada to attain this end; the contract for the building of this canal being let in November of that year. The steady growth of the Canadian inland marine, the promising development of Manitoba as a wheat-producing province, the springing into prominence of Port Arthur and Fort William as shipping points for the vast region beyond, combined to foster a desire that Canada should have an independent water route of her own.

USEFULNESS OF THE MICHIGAN CANAL.

The old canal on the Michigan side of the St. Mary's River has a record to its credit that places it in the first rank among useful works on this continent provided for the convenience of men. Although it has seen its best days, yet it has been for many years the most important artificial waterway in the world, considering the enormous traffic that passes through it, and still it serves, so far as its capacity will admit, to meet requirements and to continue services which have been of incalculable benefit to the marine of both countries. The old canal has filled the measure of demand upon it in a most satisfactory manner, and to its existence may be attributed, in a great degree, the wonderful growth of the shipping trade of the upper lakes in recent years; and certainly the busy town on the American side owes its existence and general prosperity to the fact that the canal brought most of the trade of the lakes to its doors. Trade, however, has outgrown it, and rendered necessary a new canal, the greatly increased volume of the shipping on the lakes having resulted in excessive demands being made on the capacity of the locks. That detentions to shipping this season have been serious most shipowners know to their cost, but the loss to them can not be fully expressed in figures. On the American side a vessel is recorded when she whistles for the lock and timed on leaving the lock. In a rush of craft, where the first comers have precedence, a vessel may lie at the dock for hours, perhaps for half a day before her turn comes, and this lost time means loss of money. It has been calculated that during the month of June, when ships were numerous and the delays long, the waiting time of vessels seeking admission to the lock would equal twenty-seven months' services of one vessel. This is pointed to to show the need there was of increased canal accommodation at the "Soo."

UNITED STATES GOVERNMENT CONTROL AND IMPROVEMENTS.

In 1870, the Federal Government assumed control of the American canal and proceeded to supersede the old locks, built in 1855, by the present canal, and the enlarged channel was opened to traffic in 1881 at a cost to the United States of $2,150,000. The chamber, which is curved at each end, is 515 feet long, 80 feet wide in the clear, 60 feet at the gates, with a depth on the miter sills of 14 feet. The length of the wall is 717 feet. From 1855 to 1870, there had been a large increase in the lake marine, the total tonnage seeking the canal in the latter year being 690,826 tons, among the freight registered being 49,700 bushels of wheat. But while the increase in tonnage from 1855 to 1870 was great, the increase since then to the present time has been enormous. Last year the canal was opened on April 17 and closed on December 6, a period of seven months and nineteen days, and during that time 13,110,366 tons locked through the canal, carrying 13,195,860 net tons of freight, of which there were 34,896,483 bushels of wheat. This is a greater tonnage than enters the port of Liverpool in a year, greater than the tonnage seeking the Suez Canal in a year, yet the latter is open the year round, while the "Soo" Canal is open usually only about seven months. So it can be seen that the "Soo" is a shipping point of great magnitude, surpassed by but few places in the amount of tonnage entered in the year.

COMPETITION OF THE CANADIAN CANAL.

That much of this shipping will ultimately find its way to the Canadian canal is certain. There is everything at that side to attract traffic—a modern lock, water enough to carry vessels of the deepest draft, and a chamber that can be filled with surprising rapidity. The

Michigan lock requires eleven minutes to fill, while the much larger Canadian lock can be filled in from four to six minutes. In these days of rapid transit, when saving in time means much to vessel owners, this celerity in canal operation is important.

DEPTHS OF WATER IN THE CANALS.

In regard to deep water, the Michigan lock, as has been pointed out, has a depth on the sills of 14 feet, and ships of that draft only can find passage. The lock on the Canadian side has a depth of 20 feet 3 inches at the sills, and can, therefore, admit the largest vessels on the lakes. But the river below offers obstacles to the passage of deep-draft vessels, which, in course of time, will doubtless be overcome. The old channel to and from the "Soo" on the St. Mary River is to the north of St. Joseph's Island. The boundary line between Canada and the United States follows this channel. The new channel is south of St. Joseph's Island, through what is called Hay Lake, making a saving of 12 miles in the course. The Americans have just finished dredging this channel to a uniform depth of 22 feet. The bar at the Sailors' Encampment is also being dredged, so that large ships can cross it. At present a vessel drawing 15½ feet of water can cross this bar, and by using the Canadian lock they can pass straight on to Lake Superior, whereas with 15 feet draft they could not get into the American lock. This additional foot and a half which vessels can take through the Canadian lock has been figured out as a gain of $1,000 a trip more than could be made by loading 14 feet to pass the American lock.

A defect of the old Michigan lock, according to the opinion here, is its curved chamber. * * * In building this lock, it was the intention of the United States Government to have a straight chamber, but afterwards it was considered that it would be hazardous to have gates 80 feet wide, so the entrances were reduced to 60 feet and curved on the inner face to meet the chamber wall. Difficulties are said to be presented in getting out of a lock of this shape. That this operation is injurious to the chamber wall can be plainly seen in the Michigan canal. At both ends the masonry has been scored, chipped, and furrowed by the constant attrition of vessels pocketed at these shoulders and ground and pounded against the wall in their efforts to gain headway sufficient to make a clear exit. The contact—and the masonry bears evidence that it has been no gentle one—while injurious to wooden vessels, must be doubly so to iron ones, and one can believe that no ship could leave such mark behind her without bearing away with her some indications of the encounter, and, more than this, much time, it is said, is lost in getting out which would be avoided were the chamber a straight one. The United States engineers in charge of the canal are said to have been aware of the defects in this plan for years, and that they have been fully impressed is to be inferred from the fact that they have designed the new canal with a straight-walled chamber, the same as that in the Canadian canal.

THE NEW MICHIGAN LOCK.

While the Canadians were thinking about building a new canal on their side, the American authorities set about the construction of a new lock on their side. Work has been in progress for some years, and it is expected that it will be in operation by the spring of 1897. The new lock, which is a magnificent structure of its kind, will be 800 feet long in the chamber, with a width of 100 feet. The total length of the masonry over all will be 10,010 feet and the height of the walls from the floor will be 44 feet. The depth will be exactly the same as in the Canadian lock.

THE CANADIAN CANAL.

Deeming that a canal on the Canadian side of the St. Mary's rapids was a necessity, the Dominion Parliament passed the bill in 1888. Tenders were called for the same year, and the contract was issued to Messrs. Hugh Ryan & Co., the well-known railway and canal builders. The first plans, upon which the contract was made, were prepared by the late Mr. Page, chief engineer of canals, who, for almost half a century, was employed upon Canadian canals, and who may be called the father of the Canadian canal system, having designed almost every lock in it. The dimensions of the canal in this plan were as follows:

	Feet.
Length between gates	600
Length of wall of lock over all	846.6
Width at gates	60
Width in chamber of lock	85
Navigable depth of water	16

At the time that Mr. Page designed the lock he decided to use the plan of the curved chamber which was in use in the American canal; but within the last half dozen years there has been a steady increase in the lake marine in length, beam, and draft, so that there are now plying on the upper lakes ships over 400 feet long and between 40 and 50 feet beam, larger than many ships plying the ocean, and it accordingly became evident from the experience gained by the working of the American canal that a much larger lock, and also the better design of the straight chamber, would have to be adopted. The work had not progressed long when there occurred at Ottawa the sudden death of Mr. Page, and the late Mr. Trudeau, deputy minister of the department and a civil engineer of eminence and of many years' experience, succeeded to his post of chief engineer. The boards of trade of Toronto and Montreal, the shipping men generally, many engineers and railway men, and the newspaper press united at the time to press upon the Government the advisability of having a lock with 19 feet of water on the miter sills, and Mr. Trudeau amended the plan to the extent of providing a chamber 650 feet long and 100 feet wide, with a depth of water on the miter sills of 19 feet, the curved ends being omitted. After still more consideration, Mr. Trudeau decided to abandon the huge 100-feet gates, which he considered hazardous in the extreme, and to change the lock to the following dimensions:

	Feet.
Length between gates	900
Length of walls of lock over all	1,106
Width at gates	60
Width in chamber of lock	60
Navigable depth of water at low-water level	20.3
Height of lock walls	44.6
Thickness at gates	25
Thickness of remainder	20

It will be noticed that the lock is much narrower and longer than the old design; it is thus able to take several vessels in one behind the other, a plan much superior, it is claimed, to placing the vessels side by side, thus greatly facilitating lockage.

It was in accordance with this plan that the canal was finished. The lock has two sets of gates at the lower end, irrespective of guard gates, called the main gates, which are those in use daily, and the auxiliary gates, which will be put into service only in case of injury to the main gates or while repairs are being made.

This design was a great improvement upon the former plans. First of all, the walls of the chamber are straight, thus avoiding the dangers and inconveniences caused by the curved wall, as already shown. Next, the length of the chamber will be noticed; in consequence of this length, it has greater capacity, three vessels being able to lie in the lock one behind the other. Recently three Minnesota Steamship Line steamers, with a combined length of 936 feet, and a registered tonnage of 4,987 tons, were put through at one locking, and four or five steamers of more ordinary size can be locked through at once. Then again, the depth of water afforded by the new chamber is a most important feature of the work, making it able to float any vessel which can navigate the channels connecting the lakes, thus affording a final link in the Canadian system of inland waterways. Had the lock been built according to the first plans, it would soon have become inadequate for the work imposed upon the canal, and would have had to be rebuilt in some such shape as at present. Finally, the new system of letting water into the lock which has been adopted enables the chamber to be filled and emptied with great rapidity, and as time is most essential in the navigation of the upper lakes, this is a most important advantage. Four lockages can be accomplished in the Canadian lock in less time than three in the new American lock, and thus more vessels can go through in the course of a day. At the time of these changes in the lock the whole length of the canal was deepened by 4 feet, thus increasing the capacity of the whole canal. A dispatch from Sault Ste. Marie, which appeared in the Globe, of October 7, gives an idea of what can be done in the new lock; the dispatch is dated October 5, and reads as follows:

"The Canadian lock is an assured success. This afternoon the three Minnesota Steamship Line steamers *Manola*, *Masaba*, and *Matoa*, with a combined length of 936 feet and registered tonnage of 4,987 tons, were put through at one locking. It was, as one of the captains said, the sight of a lifetime to see three such magnificent boats in one lock at the same time. All the captains passing through speak in the highest terms of the efficiency and dispatch in locking through the canal."

All these changes and improvements meant more money, and the original estimates have been considerably increased. But had the lock been built according to the original design, as has been already remarked, the expansion of trade and the increase in the size of the lake steamers would have necessitated before long the expense of rebuilding the lock to get its present depth and capacity.

PROGRESS OF THE WORK.

The contractors began operations in May, 1889, having collected one of the largest plants ever employed in similar work. The site chosen for the canal lies 100 yards or so south of the old cutting of the Northwest Company through an island, now become part of the mainland, lying on the edge of the rapids at the extreme west end of the town. Work was begun, and from the turning of the first sod until the laying of the last stone the work was pushed with vigor. In the cutting, which ran for 3,500 feet across the island, the contractors found Potsdam sandstone stratified. During the construction, the bottom of the cutting looked like a railway yard, with its innumerable tracks and high-poised immense derricks, while on the banks were thousands of tons of stone, the blocks of which, as they came from under the bush hammers of the small army of stonecutters, were marked for the positions in the wall of the lock which they now occupy.

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The walls of the lock, which are 1,100 feet in length on each side, contain about 70,000 cubic yards of masonry, and all of this, with the exception of about 7,000 cubic yards, was put in place in a little over five months of the year 1893—more masonry, it is said, than has before been built in one structure in the same time. The final change in the designs for the lock was made in the autumn of 1892, and the cause for this great speed of construction is found in the fact that in the summer of 1893 the United States Government ordered the collection of tolls on Canadian vessels passing through the American lock. This stimulated the Canadian Government to offer the contractors a bonus of $90,000 for completing the lock by the end of 1893, the contract then existing calling for its completion by the end of 1894. To enable the contractors to complete so large a contract in so short a time, the plant and staff, the contractors say, had to be nearly doubled, and the greatest energy put forth by all concerned. After the work on the walls was completed, that on the culverts at the bottom of the chamber was carried forward. There are four of these culverts. The dimensions of the valves at the filling end are 8 by 8 feet, and at the emptying end 8 by 10 feet. By the improved system adopted, the entire chamber can be filled in six or seven minutes and emptied in four or five minutes.

The walls erected and the receptacles for the lock and auxiliary gates in readiness, the chamber was flooded, and the gates—immense structures of wood and iron, constructed on the floor of the chamber—were floated into position by means of pontoons, and the chamber, with the exception of the electrical appliances used to move the gates and operate the valves, was ready for use. The last stone was put in place on November 16, six weeks ahead of the time stipulated in the agreement by which the bonus was to be given for the shortening of the original time allotted by a year.

CRITICISM OF THE CONSTRUCTION.

We now come to that portion of the canal about the construction of which there has been so much criticism. This is the western entrance. It was intended at the outset to have a stone wall all the way from the bottom, but the department, it is understood, decided to have crib work, because of the difference in the cost. Ultimately, it was decided to have a crib work foundation to within 6 inches of low-water line, surmounted by a masonry wall. It was in this wall that the bulging occurred, about which the public have heard a good deal. According to the statements of the contractors and Messrs. Crawford and Keefer, a portion of the crib work bearing the wall was forced out by the settling of the filling behind the crib. * * * The contractors, immediately upon the bulging being called to their attention, set to work under the directions of the Government engineers to strengthen the wall. Supports imbedded in the bottom of the channel were put in, the space behind being filled in with concrete. The Canadian Pacific Railroad crosses the canal near the western entrance by a swing bridge, which rests on the pier built in the canal 50 feet from the south side, thus narrowing the passage to about 90 feet clear at that part. Having a bridge of this description here is undoubtedly a mistake, and it is a considerable eyesore. However, according to report at the "Soo," objection to the obstructive pier is to be met by its removal this winter. The power company, who are carrying to completion the largest pulp mill in the world, need a swing bridge over their tail race. The swing over the canal is of a length suitable for their purpose, and, it is said, the Canadian Pacific Railway will substitute a full swing over the canal and dispose of the present structure to the power company.

The dredging and crib work of the upper or western entrance was let to Messrs. Allen & Fleming, of Ottawa, the dredging being sublet to Messrs. Hickler Bros., of Sault Ste. Marie, and the contract for the construction of the piers to Mr. I. H. E. Secretan. This work is now practically completed, as is the building of the 2,000 feet of floating booms on each side of the main channel, which was Mr. Secretan's work. Messrs. Hugh Ryan & Co. sublet the dredging of the lower entrance to Messrs. J. Hickler & Sons, Buffalo; the crib work to the entrance was sublet to Messrs. George & White, and the contract for the lock gates was given to Mr. Roger Miller, of Ingersoll—all being men of acknowledged ability in their respective lines. The contractors had a most efficient staff of men in all branches of the work.

RESULTS SINCE THE OPENING.

The opening of the canal took place on September 9, 1895, Messrs. Ryan & Co.' work having been ready by the middle of June, but other parts of the work having been delayed. * * * Since that time—a little over thirty days—upwards of 400,000 tons have been locked through, the greatest single lockage being that of three steamers of the Minnesota Steamship Company, each over 300 feet long—longer than the chamber of the canal—to which reference has been already made.

The following, from the Sault Ste. Marie News, published on the American side, shows that the competition of the Canadian canal is felt and appreciated:

"The September report of St. Mary's Falls Canal shows an increase in everything for the month, excepting the freight tonnage, which is due to the fact that the Canadian lock has been opened and in operation since September 9, and that 414 vessels have been locked through it, having a registered tonnage of 312,924 tons. The report shows a difference of 77,950 tons over that of 1894. The combined tonnage of the two canals shows an increase of about 150,000 tons over the corresponding month of last year."

In a recent issue of the Marine Review, reference is made to the work in the following terms:

"Notwithstanding all that has been said of a probable levy of tolls on the new Canadian canal at Sault Ste. Marie and rumors that the Government would never put the canal into full operation, but simply keep it as a reserve passage to and from Lake Superior, the canal has been opened, free of any disadvantage to vessels of the United States, and the opening has occurred at a time when the relief afforded to the overcrowded American lock will represent thousands of dollars in increased commerce. When it is understood that practically the entire commerce of Lake Superior is carried on in vessels of the United States, this action of the Dominion Government is the more welcome and more surprising. Heavy charges are involved in the maintenance of the canal, but vessel masters all report that the service at the lock is of the highest efficiency. People on this side wonder why Canada has undertaken the expense of this canal, but the disposition in England is to encourage the Dominion authorities. All of the London papers contained extended notices of the opening of the canal. The following from the London Post is indicative of the feeling in the mother country: 'Although Lake Superior commerce is now carried on very largely in vessels of the United States, Port Arthur and the district surrounding it is rapidly rising in importance, and it would seem suicidal for Canada to permit the possibility of a great trade route from Lake Superior outward being at any moment closed against her by the jealous tariff of a foreign and commercially hostile canal, and she has done wisely to keep the path open for herself.'"

The canal, as has been pointed out, is at the western end of the town of Sault Ste. Marie, and for lack of regular conveyances it is difficult to reach from the center of the town, yet there are few visitors to the place who do not make it a point to make the journey and examine the work. And there are few Canadians who see the lock and the rapidity and precision with which it is worked by the complete appliances at both ends of it, who do not feel proud that Canada possesses a work that renders her independent. There can be no more imposition of canal tolls, as there was in 1892. Canadian shipping can now pass without impediment from one end of the lakes to the other, nor does any churlish spirit suggest withholding from American shipping any privileges in this canal which Canadian shipping enjoys.

All things considered, the chamber in the Canadian canal—60 feet wide and 900 feet long, closed by wooden gates perfect in their miterage, of great strength, and unaffected by atmospheric variation—will meet all needs for many years to come. From a scientific standpoint, it is an achievement which places Canada in the first rank in canal building, and the contractors are entitled to the distinction of having carried through one of the largest and most important works of the kind in any part of the world.

Mr. Clergue, the manager for the power company at the "Soo," an American whose knowledge of the cost of great works is extensive, holds that the construction has been at low cost, and he considers the work on the canal as of a superior quality. American engineers who have inspected it are said to have expressed the same opinion, and all who have seen it have been surprised by its magnitude as a structure and its great usefulness to men.

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THE PROSPECTS OF THE "SOO."

Standing upon the iron bridge of the Canadian Pacific Railway Company, which stretches in many spans over the turbulent rapids of the St. Mary's River, one sees on one side what has the appearance of a compact and populous city, and on the other a scattered town straggling along the water front, a picturesque level withal, running back to a tree-clad ridge, from which many pretty homes look down. It has puzzled many to account for this remarkable development on one side, as compared with the slow growth on the other, but the reason is not difficult to discern. The canal on the United States side of the river is the secret of the progress of what is known as the American "Soo."

They that live at the East and have never made a journey over the upper lakes and whose knowledge of conditions there is founded, not upon observation, but upon report, can form no idea of the surprising activity of the 'Soo" or conceive comprehensively the immense traffic that daily comes to its gates. Above the rapids, the river pursues a short and devious way to Lake Superior; below, the stream holds a tortuous course to Lake Huron. The distance between lake and lake is infinitesimal as compared with the great reaches of navigable water above and below, yet into this narrow water course comes the entire shipping of the lakes, it may be said. From the opening of navigation in the early spring until its close at the beginning of winter, there can be seen at the "Soo" an endless procession of all kinds of craft up and down the stream, and all through the hours the visitor there is reminded of the never-ceasing activity by the significant signaling of the passing craft, from the sonorous bellow of the big liners to the shrill piping of the towing fleet, all pressing eagerly forward on missions which mean future to many. It is impossible that those resident on the United States side, having a canal that gave them a monopoly in moving this immense tonnage, should not share in the profit so great a traffic must bring wherever it touches. It meant a demand for ship chandlery, coal, provisions of all kinds, and supplies to meet the personal needs of officers and men, and, further, it meant a large increase in population, attracted thither by the opportunities which the ever-growing shipping trade offered in the way of work. Thus the Michigan "Soo" grew, the basis of the growth being the canal. The United States Government augmented this by making the place a military station and by establishing an engineering office, with a permanent staff of engineers, who have under direction and supervision the canals, for there will shortly be two in operation on that side, and the improvements in the river below where the channel passes through American territory, thus adding greatly to the importance of the place.

In the meantime, the Canadian "Soo" lay in a state of comparative quiescence, neither profitable nor encouraging, looking over at the bustling town rapidly extending along the opposite bank, and wondering when similar expansion would come her way. At times she girded herself up and made a bound forward, holding the advanced position she thus attained; but these spasmodic efforts, while not without general benefit in their results, were not so satisfactory as steady expansion would have been. Then, a decade or so ago, a land boom came; not one of those inexplicable upheavals that lift land to heights unattainable by ordinary mortals, but a calm, decorous, and gentlemanly boom, the seductiveness of which, though subdued, was insidious, and the results in a degree fully as disastrous as those which follow the bold-faced and brazen boom that has so sorely affected some places we know of. They that had their feet planted in the Canadian "Soo," assured that the whirligig of time would bring prosperity, knew that what they looked for would not come through a land boom. It was plain to them that the canal was the strength of the Michigan "Soo," the center of its activity, and, in a great measure, the source of its fortune; and until something should be done to attract shipping to the Canadian side and equalize the chances for business, there could be little hope of the progress they looked for. Ships innumerable could be seen passing up on the other side, to be lifted around the rapids and sent on their way to Lake Superior, and ships innumerable could be seen slowly hauling out of the lock and bearing away down stream, giving the Canadian side a wide berth.

But all this is altered now. The Canadian "Soo" has its own canal, and the residents, when they hear ship horns roar three longs and two shorts, know that the shipping trade is coming their way; that at last the monopoly of the Michigan "Soo" is broken; that the Canadian "Soo," plainly the nucleus of a great city, has fully entered upon the broad path along which prosperity holds out an open and welcoming hand. Already the effects of the opening of the canal are felt. The demand for supplies which the new traffic has created is at present beyond local production, and it has been estimated that the daily sales of provisions, etc., now total $500 a day, and the Canadian "Soo" has reason to believe that before this time next year this sum will be largely increased. In this connection, it may be pointed out that, while there are many thousands of acres of land in this vicinity awaiting tillage, there are few tillers, yet the whole continent does not present a better field for farming operations. Not in wheat, for it has been demonstrated that wheat does not do well in this locality, but in coarse grains, roots, and vegetables of all kinds. A few weeks ago the annual show of the agricultural society of the district was held, and at that show there was a very fine display of roots and dairy products. The onions shown were as large as the early Bermuda, and by eastern men were considered to be a splendid sample. If the land about here can produce vegetables such as these in quantity, it is the best section of Ontario in this respect, as there are few localities capable of producing so fine roots and vegetables. In small fruits, also, this region excels. There is a man at the "Soo" who has made a fortune out of wild raspberries, they grow so plentifully in the surrounding country. There is a range of townships east of the "Soo" the land in which is as productive as any in Canada—fine clay loam, clear from stumps and stones, and ready for tillage—and the country north and west offers equal facilities for the settler.

BERLIN'S INDUSTRIAL EXHIBITION.

Berlin's Industrial Exhibition will open promptly on the 1st of May and continue till October 15 of this year. All the important buildings are erected; only a few weeks of work are needed in many to prepare them for the exhibition. The city of Berlin is taking a very lively interest in this effort to present a survey of her industries; the promoters are very sanguine of a large attendance of Americans during the summer.

Although not conceived on the scale of an international exhibition, the Berliner Gewerbe Ausstellung has been planned and carried out in such a way as to insure a pleasant impression on the part of foreign visitors. The buildings are for the most part of no great height, but are relieved by picturesque turrets and pinnacles, and are scattered about a suburban park. The material is iron framework, filled in with mortar or beton.

The location of the exhibition is a happy one. It lies on the left bank of the River Spree, in a park called Treptow, whose small lakes have been enlarged and connected by canals in order to furnish the necessary water views and accessories, in addition to the broader sheet of the River Spree. Distant a cab drive of half an hour from the business center of the city, the exhibition can be easily reached in from fifteen to thirty minutes by steam from the various stations of the Ringbahn, a circular railway system of Berlin, as well as by the small fast steamboats up the river.

Special attention has been given to the restaurant feature and to supplying visitors with good instrumental music. A theater has been built on the lines of an old building of Berlin and the military and other bands for which the city is noted will add to the attractions. There are, further, a race course and a place for cycle, ball, and other sports, a fishery exhibit, a village of seventeenth-century dwellings and public buildings representing old Berlin, a Cairo street, like that at the Chicago World's Fair, a cleverly managed Alpine panorama representing the Ziller Thal, captive balloon, telescope with the highest magnifying power, imitation steamship built on land and other edifices and popular attractions common to large fairs.

The chief building, in which the products of Berlin factories in metals, glass, porcelain, leather, and india rubber are to be shown, covers 60,000 square meters and is of light iron and beton work. Its entrance is by a semicircular portico into a large restaurant marked by a dome which is framed between two square towers of an Italian style of architecture. From this entrance one sees at the end of a long artificial lake, excavated where the playground used to be, another building with tall, round tower and semicircular portico below. The tower is a water tower, furnishing the various lakes and buildings with water, but the portico and the building behind, which abuts on the tower, form a restaurant, the largest on the grounds. Cascades and fountains will play at the foot of the tower into the artificial lake.

The fishery building, of a Scandinavian style of architecture, with steep, green roofs, lies directly on the river front, and, by a covered way, is joined to a similar building for water sports, navigation, and food products. Chemical products are noted exports of Berlin; a special building is given to chemistry, photography, and scientific instruments. Another is devoted to education and hygiene; a third to gas industries. But enough has been mentioned to show that the exhibition is worth a visit on the part of Americans who are planning a trip abroad during the coming spring and summer. Such as so intend may be recommended to stop at Hamburg, see the new canal between the Baltic and the North Sea, visit the international naval exhibition at Kiel, which will be open, and then, take in the Berlin Industrial Exhibition on their way to South Germany or Austria, to Holland, Belgium, or Switzerland, to Denmark or Russia. Special rates may be offered during the coming summer by the Hamburg American Steamship Company and by the North German Lloyd, whose steamers run to Bremen.

Although delays have made the presence of many American pictures at the Berlin International Art Exhibition doubtful, there is again a chance that the gallery which I had the honor to announce as reserved for art works from the United States will be occupied by a collection of paintings now being brought together in New York. These exhibitions, and the many permanent attractions of Berlin in the way of museums of art, history, and science, warrant the recommendation that persons who propose to visit Europe this year should begin their trip with northern Germany.

CHARLES DE KAY,
Consul-General.

BERLIN, *March 9, 1896.*

BERLIN'S TRADE AND INDUSTRIAL FAIRS.

The growing manufactures and industries of the city of Berlin have been long regarding with a certain jealousy the old-established centers of commerce elsewhere in Germany, such as Leipsic, Hamburg, Nuremberg, and Frankfort. In the autumn of the year 1893, a number of merchants met and founded the Berliner Messe, in order to establish, for the capital of the nation, a couple of annual fairs, one in the spring, the other in the autumn, which should draw away, more especially from Leipsic, the buyers of paper and metal articles, books, and furs, who have, for so many decades, been wont to frequent her yearly markets.

The first efforts in 1894 were not large and not largely attended, but had the effect of causing Leipsic to erect a new edifice for the use of her merchants and their visitors. Berlin has responded by erecting a yet larger building, which has inscribed on its German-Gothic front in large gold letters "Berliner Mess Palast."

The Mess Palast was opened to-day at 11 a. m. by speeches and ceremonies in which figured the Oberbürgermeister and representatives of the police department (here an independent organization depending on the Crown, and therefore removed from municipal control), of the elders of the Berlin Trade Guild, and of foreign countries, in the persons of the consuls-general. A gala dinner will be given to-night at one of the principal hotels. In the speeches, one note is almost always to be detected, namely, resentment at the way in which the Prussian and the imperial governments coquette with the agricultural and bimetallist parties and ignore the services of the commercial classes of Berlin.

It is true that at Court and in certain sections of the Reichstag, there seems to be a disposition to deal unfairly with Berlin. This is seen in the comparative overtaxation of the city; also, in the expending on schools in the country of funds levied for city schools. The city authorities do not like interference on the part of the police in street railways, building plans, and other matters, nor do they enjoy the constant interruption of traffic consequent on the closing of streets because of Court festivities. But the most serious trouble is the aggressive character of the policy pursued by the landowning classes, which aims at obtaining, on the one hand, larger subsidies from the national treasury while raising the cost of food products, and, on the other, exciting foreign states to reprisals by increasing the duties on imported goods.

The Berliner Mess Palast is a large building of five stories, surrounding a capacious paved courtyard, which lies in the southeastern section of the city. Its front on the Alexandrinen Strasse (No. 110) is not very large, but as one enters through a first courtyard the lot expands. Elevators and lifts for goods are found at the corners. There are restaurants and writing rooms, many well-lighted separate shops, and several halls for smaller shops or booths. The Messe of 1894 had the effect of bringing out a good many small manufacturers and shops. The present building is expected to further encourage the smaller industrial adventurers, the house industrials, and industrial-art workmen, who can not command capital enough to keep a permanent shop or store.

The Mess Palast is to be used for about a fortnight in spring and autumn for the actual yearly markets; but from appearances, it is likely that the promoters expect it to become a large perpetual bazaar. It cost 2,500,000 marks (about $600,000).

PROPOSED AMERICAN EXHIBIT.

I would respectfully call attention to the fact that the Mess Palast is something like the plan that I had the honor to suggest last year for the better exhibition of American goods and food products in Berlin, namely, a permanent exhibition place. I did not, however, suggest that it should be placed in the southeast of Berlin, but near the center and close to the hotels, where it could hardly fail to be visited by all transient residents as well as the commercial classes of Berlin. I would like to repeat that good judges consider such a plan not only feasible, but necessary for the proper furtherance of American exports, and stand ready to meet with advice and encouragement any movement on the part of American manufacturers, exporters, or capitalists looking toward such a scheme. Unfortunately, the efforts that have been made in this direction hitherto have proceeded from persons who knew little of German needs and did not possess the confidence of German commercial men. If done at all, it must be done on a large scale by well-known firms and a fixed schedule of charges must be laid down, so that the American exporter shall know exactly what he risks when sending goods over for exhibition.

BERLIN VS. LEIPSIC.

Whether the Mess Palast, with its American ideas, like reading rooms, restaurants, lifts, and elevators, will prove a serious rival to the famous fairs of Leipsic, is a question. It will be certain to help Berlin industries by offering a place where buyers can see many manufactured objects conveniently in a short space of time, but notwithstanding the inconveniencies that Leipsic presents to the crowds that come together on such occasions, she has the advantage of habit and custom. A merchant naturally considers that if he goes to Berlin, he may not meet the sellers or the buyers he knows and has dealt with before, while if he goes to Leipsic, they will surely be there. Therefore, the Mess Palast may not be to Berlin all that the promoters and mercantile guilds of the Prussian capital hope it will prove. But its establishment has given an opportunity to many speakers to express resentment at various rules, regulations, and laws, in force or projected, the object of which is to interfere with freedom of business and trade.

CHARLES DE KAY,
Consul-General.

BERLIN, *February 26, 1896.*

CLOAK AND CLOTHING STRIKE IN GERMANY.

The very low prices paid for labor in Germany, especially among the tailors and tailoresses, has been the cause of bringing about a strike, which has involved fully 60,000 operatives. Government aid has been suggested to bring about a better understanding, but the manufacturers having conceded of their own accord a slight increase in the pay, the strike has been partly suspended.

The strike involved all the operatives in Berlin, Leipsic, Breslau, and other large cities, and had the sympathy of the press and public at large. The Neue Freie Presse, of Vienna, a journal of undoubted veracity, gives some details of the strike, which will be of interest to manufacturers of similar lines and to the laboring classes in the United States.

It would seem that the so-called "sweating" system was the main cause of the strike, whereby the "sweater" secures for himself 60 per cent of the price that he obtains from the manufacturer for the making of a garment. Women and children engaged in the work are the ones most subjected to this system. New "sweaters" are recruited from the ranks of operatives, for, just as soon as one gets work directly from the manufacturer and supplies him with properly made garments, they (the operatives) are urged to hire additional help so as to turn out more work, whereby they become "sweaters" themselves.

Since 1870, Germany, and particularly Berlin, has become the principal cloak-exporting market for the world. It is estimated that 36,000 operatives are engaged in Berlin in this line; in 1893 and 1894, there were 164 exporting firms and 280 retail establishments, selling yearly about 150,000,000 marks' worth.

In Germany, as well as in other European countries, regulations require the establishment and maintenance of certain institutions for the amelioration of the conditions of laboring classes; they are the so-called "Kranken-Cassen." Funds are provided for these institutions mainly by those who employ labor, and a very small portion is contributed by the working people. The employer is responsible for the collection of funds from the operatives. Those insured get a weekly stipend should they, through sickness, be unable to work. Funds thus collected are managed by Government officials in the district where each factory is located.

Female cloak makers are so poorly paid that they are unable to pay their share toward the "Kranken-Casse," and are, consequently, debarred in case of sickness from being assisted.

Herr Timm, a reliable authority, a member of the commission to investigate the condition of the working people, reports that a woman of twenty years' experience in the cloak-making business earned on an average in 1893, for forty-five working weeks, the sum of 417.85 marks ($100.28), and, in 1894, for forty-nine working weeks, an experienced hand earned 537 marks ($125). Thus, in 1893, an experienced worker earned $2.34, and in 1894, $2.60 per week. The highest wages earned per week were $6.12; the lowest, $1.03. The exceptionally large earnings were reached in the height of the season, when the wage worker labored at night and on Sundays.

A further complaint of the strikers was the great loss of time they sustained when they brought the finished garment for inspection, often leaving home at 8 o'clock in the morning and being unable to return until 3 to 4 in the afternoon, the delay being occasioned by having to wait in line until it came their turn to hand in the garments for examination.

The wages mentioned are for experienced hands; beginners get no pay and must work four months for nothing; other trades require six months, apprentices being entitled to only 3 marks (72 cents) per week.

A fair worker, earning 6 marks ($1.44) per week, manages her income as follows: For her daily wants, she spends 15 cents, or $1.05 per week; for her rent, 20 cents per week; total, $1.25; leaving her the sum of 19 cents for all other necessaries, such as clothing, shoes, etc. It must further be taken into consideration that the hand is laid off without any work for a few weeks (out of season) during the year.

By a resolution of the Reichstag passed May 14, 1885, the Government was empowered to institute inquiries and investigations relative to wages of women employed in industrial pursuits, with the view of improving their condition. The German Government has given this matter most careful consideration, but, although eleven years have passed, nothing has been accomplished to that end.

MAX JUDD,
Consul-General.

VIENNA, *March 19, 1896.*

IMMIGRATION CONTRACT WITH VENEZUELA.

I have the honor to inclose a copy and translation of a recent contract concluded by the Government of Venezuela for the introduction of 60,000 immigrants. Should this enterprise prove successful, it will be the beginning of vigorous efforts to attract a desirable class of immigrants, who are so much needed for the development of the vast resources of this country.

E. H. PLUMACHER,
Consul.

MARACAIBO, *April 4, 1896.*

[Translation.]

ARTICLE 1. Dr. Manuel Maria Galavis binds himself to bring, within the period of seven years, 60,000 American, German, Swiss, Spanish, Irish, Italian, and Dutch immigrants, of both sexes, all to be agriculturists and between the ages of 10 and 60 years, with the object of establishing colonies in the public lands of Venezuela. Upon the arrival at the port of disembarkation of each expedition of immigrants, the contractor will give notice thereof to the Government, in order that the number may be verified. The contractor must present documents proving that the immigrants are agriculturists.

ART. 2. Dr. Galavis binds himself to furnish, on his own account, to the immigrants, for the period of at least six months after commencing their agricultural labors, clothing, food, and medicines. He will also furnish them with the necessary shelter for one year, and with the farming tools, animals, seeds, etc., that they may need for the first two years for the cultivation of the lands conceded by this contract.

ART. 3. The contracts that Dr. Galavis may celebrate with the immigrants must conform to the immigration laws now in force.

ART. 4. The National Government cedes to Dr. Galavis 6 hectares* of public land for each immigrant that he brings to the country and who fills the conditions prescribed in article

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*1 hectare=2.471 acres.

1, and these lands will be cultivated according to the prescriptions of article 26 of the law of August 26, 1894, respecting immigration. Dr. Galavis will select these lands at the place or places which, in his judgment, may be most suitable for the purposes of colonization, and is obliged to distribute the half among the colonists, according to article 27 of the law already cited.

ART. 5. The National Government will give to Dr. Galavis the property right to 3 hectares of public land for each immigrant as indemnification for the expenses of transport.

ART. 6. Should there be necessity of railways for the transport of products, merchandise, etc., the Government of the Republic binds itself to give the preference to Dr. Galavis or his assigns for the construction of these works, with all the concessions permitted and granted by law, previous arrangement being made with the Government respecting tariff rates and other details of operation.

ART. 7. When Dr. Galavis shall have finished his explorations for the selection of the lands where the colonies are to be established, he will give immediate notice thereof to the Government, and should it be necessary to construct railways, their starting points must be indicated, as well as their length, the zone of country through which they will pass, and their terminals.

ART. 8. Exemption from all customs dues will be granted for the instruments, tools, machinery, wood, seeds, rails, and other accessories introduced for the development of the lands and in benefit of their products, as well as the articles for the construction of the houses of the colonists, warehouses, railways, and wharves, the prescriptions of the law to be complied with in all cases.

ART. 9. Should it be necessary to establish one or more steamship lines, the Government will concede the free navigation of the rivers and interior lakes and of the seas adjacent to the territory of the Republic, always in case Dr. Galavis complies with the prescriptions of law.

ART. 10. Dr. Galavis may freely work the mines and do business with the woods and other products found in the ceded lands, complying in the case of mines and other natural products with the requirements of the laws upon the subject.

ART. 11. Dr. Galavis will be careful to arrange that in the various colonies that may be established no one nationality among the colonists predominates as to number over those of the others.

ART. 12. In each colony, the colonists shall have a right to elect their own police authorities in conformity with article 34 of the immigration law of August 26, 1894.

ART. 13. In each colony, there shall be a primary school for every 5,000 colonists. These schools shall be maintained by Dr. Galavis during the first three years, counting from the foundation of the colony.

ART. 14. In the contracts that Dr. Galavis may celebrate with the immigrants, there shall be a clause by which they bind themselves not to leave the country within two years from the time of their arrival, and the Government shall have the right to oblige them to remain during said period unless they should repay the expenses which they may have caused to be incurred.

ART. 15. The National Government will extend to Dr. Galavis the property titles of the 6 hectares of land for each immigrant, according to the terms of the law now in force upon the subject, and the titles of the lands for the indemnification referred to in article 5 of this contract will be extended upon the arrival of the immigrant at the colony to which he may be assigned.

ART. 16. The Government grants to Dr. Galavis the right of exemption from military service of all the laborers, artisans, and employees of Venezuelan nationality engaged in the service of the railways and wagon roads, as well as of the vessels, steamships, and wharves pertaining to the enterprise.

ART. 17. Dr. Galavis binds himself to construct the necessary wharves for the embarkation of passengers, products, and other merchandise at all suitable points where the necessities of the enterprise so demand. These wharves shall be subject, for public service, to a tariff which shall be fixed by agreement between the Government and the contractor and shall be the property of the latter for a period of ninety years, counting from their readiness for service. At the expiration of this period, they shall become the property of the nation, without indemnification whatever, and must be delivered in a perfectly good condition.

ART. 18. The enterprise shall not be taxed by any class of national imposts.

ART. 19. Dr. Galavis binds himself to commence the explorations and studies for the selection of all or the greater part of the colony sites within the period of one year from the date of approval of this contract by the National Congress, or within one year more at the latest if allowed, and the first expedition of immigrants within one year, counting from the expiration of the period granted for the exploration.

ART. 20. The company which may be formed according to this contract shall be incorporated in Venezuela.

ART. 21. In case Dr. Galavis does not comply with his obligations specified in article 19 of this contract, he will indemnify the Government for the damages thus caused, said indemnification in no case to exceed 50,000 bolivars.

ART. 22. The National Government will release Dr. Galavis from the payment of registry fees for the registration and transfer of the present contract.

ART. 23. The present contract may be transferred to another person or company, previous notice to be given the Government and with its consent, but it may not be transferred to a foreign government.

ART. 24. The doubts and controversies which may arise respecting the interpretation and execution of this contract shall be resolved by the tribunals of the Republic, according to its laws, but in no case can they give rise to international reclamations.

MARITIME TRADE OF PACIFIC COAST OF SOUTH AMERICA.

The maritime trade of the Pacific coast of South America gives evidences of a steady and substantial growth. Lately, a telegram from Valparaiso stated that the net earnings of the Compañia Sud Americana de Vapores (Chilean) for the six months ending December 31, 1895, amounted to 700,000 pesos ($638,400). During the past year, this company has added a magnificent new vessel (the *Loa*) to its fine fleet, and another, which is said to be still finer, is on her way from England to reinforce the said fleet.

The Pacific Steam Navigation Company (English), which monopolizes the coasting trade between Panama and Valparaiso in combination with the former company and engages in the direct trade with Europe via the Straits of Magellan, is having four steamships constructed, viz: One fast twin-screw vessel of 5,000 tons for the direct mail service of Europe via the Straits of Magellan, and another, a cargo vessel of 6,000 tons, having the latest appliances for handling cargo, intended for the direct trade with Europe (both vessels are being built by Harland & Wolff, Belfast); for the trade between Panama and Valparaiso, Laird & Co., of Greenock, are constructing two superb steamships. They will have the finest accommodations for passengers and the best appliances for handling cargoes.

These companies have an alternating weekly service between Valparaiso and Panama and Valparaiso and Pimentel, Peru, and intermediate principal ports. This gives a semiweekly steamship service between the principal ports of Peru and Chile and Valparaiso and a weekly service only with Panama. Both lines collect freight and passengers for the steamships in the direct trade between Valparaiso and Europe.

There are, besides, several lines of steamships navigating between Hamburg and Liverpool and the ports of this coast as far north as Central America.

Obviously, these arrangements give a southward and Europeward trend to the trade of this west coast. This must continue until the American people utilize the shorter and inner routes from our Pacific seaboard and across the Isthmus of Panama.

Meanwhile, it is gratifying to note that, in a late circular, Messrs. W. R. Grace & Co., agents of the Merchants' Steamship Line, operating between New York and this coast, announce the early completion of the *Corocoro*, which is destined for this trade, and that this addition to their fleet will enable them to have one departure monthly from New York for this coast.

LEON JASTREMSKI,
Consul.

CALLAO, *February 27, 1896.*

TARIFF CHANGES IN ANTIGUA.

I inclose herewith copies of the new customs tariff act of 1896, which came into operation on the 2d instant, having been passed by the legislative council on the 31st ultimo and approved by the governor of the Leeward Islands on the 1st of January.

By reference to No. 2, it appears that, from and after the commencement of this act, an additional duty of 10 per cent of the amount of duty payable under the provisions of said customs tariff act has been imposed upon all goods mentioned in the schedule.

Changes in the specific import duties.

Articles.	Unit.	Tariff of 1896.			Tariff of 1892.		
		£	s.	d.	£	s.	d.
Aërated and mineral waters	Dozen reputed pints	0	0	6	....		
Alcoholic liquors:							
Ale, beer, porter, stout, perry, and cider	Dozen reputed quarts	0	1	6	....		
In casks	Gallon	0	0	6	....		
Bitters of all kinds	Dozen reputed pints	0	2	0	....		
Cordials, liqueurs, and sweetened spirits	Gallon	0	5	0	....		
Spirits, not sweetened, not exceeding the strength of proof by Sykes's hydrometer and so in proportion for any greater strength of proof—							
Brandy	do	0	5	0	....		
Gin	do	0	4	2	....		
Rum	do	0	3	3	....		
Whisky	do	0	4	6	....		
All other spirits		0	4	2	....		
Wine, including all flavored or medicated wine	£100 value	25	0	0	....		

Changes in the specific import duties—Continued.

Articles.	Unit.	Tariff of 1896.			Tariff of 1892.		
Animals:		£	s.	d.	£	s.	d.
Cattle	Each	0	5	0			
Horses	do.	1	10	0	2	1	8
Asses	do.	0	4	0	Free.		
Mules	do.	0	10	0	0	9	6
Bricks and tiles	Thousand	0	4	2	0	6	3
Boots and shoes		Ad valorem.			4 1/16 per cent.		
Cement	Barrel	0	1	6	0	2	0
Coal, coke, and patent fuel	Ton	0	2	0	0	2	6
Drugs:							
Opium (bhang)	Pound	0	10	0			
Other		Ad valorem.			7½ per cent.		
Firearms and ammunition:							
Guns	Each	1	0	0	1	0	0
Pistols	do.	0	10	0			
Gunpowder and all explosives	Pound	0	0	6	0	0	4
Grain:							
Corn and wheat	Bushel	0	0	3	0	0	2½
Oats	do.	0	0	3	0	0	6
Pease, beans, barley, and calavances	do.	0	0	6	0	0	8
Rice	100 pounds	0	2	1			
Matches	Gross	0	0	3			
Oil meal, linseed meal, cotton-seed meal, and similar preparations.	100 pounds	0	1	0	0	1	0
Perfumery and perfumed spirits, hair oil, pomades, powders, toilet or fancy soaps, and similar toilet accessories.	£100 value	20	0	0			
Provisions:							
Arrowroot, sago, tapioca, and all similar starches and all preparations of the same.	100 pounds	0	2	1			
Beef in pickle or tin	do.	0	4	2	0	3	3
Bread and biscuit, not fancy or in tin	Barrel not exceeding 100 pounds.	0	1	0	0	0	10
Butter	100 pounds	0	8	4	0	10	0
Cheese	do.	0	8	4	0	4	6
Coffee, cocoa, and chocolate	do.	0	8	4	0	10	0
Corn meal	Barrel	0	2	0	0	1	8
Fish, dried or smoked	Cwt	0	1	6			
Pickled salmon	Barrel not exceeding 200 pounds.	0	8	0			
Pickled mackerel	Barrel	0	2	6	0	3	0
Pickled herrings and other	do.	0	2	6	0	2	6
Flour of wheat	do.	0	5	0	0	3	6
Oatmeal or rye meal	do.	0	4	0			
Fruits and vegetables—							
Canned, tinned, bottled, or otherwise preserved	Reputed pound	0	0	1			
Almonds, currants, figs, prunes, and raisins	Pound	0	0	2	0	0	2½
Potatoes, except sweet potatoes	Barrel	0	1	6	Ad valorem.		
Hams and bacon	100 pounds	0	8	4	0	3	4
Lard and its compounds	do.	0	4	2	0	3	0
Macaroni and vermicelli	do.	0	4	2	0	5	0
Oleomargarine	do.	0	8	4	0	5	0
Pork in pickle or salt	do.	0	4	2	0	2	11
Sausages and tongues	do.	0	8	4	0	10	0
Sugar—							
Muscovado and melado	do.	0	4	2	0	5	0
All other	do.	0	8	4	0	10	0
Tea	Pound	0	0	6			
Vinegar	Gallon	0	0	3			

Changes in the specific import duties—Continued.

Articles.	Unit.	Tariff of 1896.			Tariff of 1892.		
Tallow and oils:		£	s.	d.	£	s.	d.
Candles, except tallow	Pound	0	0	2			
Candles, tallow	do	0	0	1	Free.		
Oils—							
Castor and cod liver	Gallon	0	1	0	0	1	6
Olive	do	0	1	0	0	1	0
All other, not being rock oil	do	0	0	8			
Petroleum and its products	Case of 8 imperial gallons.	0	1	6			
Soap, other than toilet or fancy	100 pounds	0	4	2			
Tobacco:							
Cigars, except those known as Long Toms	Pound	0	5	0			
Long Toms	do	0	2	6			
Cigarettes		0	2	6			
Leaf—							
If imported in packages containing not less than 500 pounds.	Pound	0	0	9			
If imported in packages containing less than 500 pounds	do	0	2	0			
Manufactured (including snuff)	do	0	2	6			
Wood:							
Cedar and pine shingles	Thousand	0	2	1	0	3	0
Cypress and wallaba shingles	do	0	4	2	0	5	0
Hoops	Twelve hundred	0	8	4			
Pitch pine	100 superficial feet of 1 inch thick.	0	8	4			
Oak, beech, elm, mahogany, hickory, and all hard woods.	do	1	0	10	2	1	8
White pine and spruce	do	0	6	3	0	8	4
Staves	Thousand	0	8	4	0	5	2
Shooks	Each	0	0	3			
With heads		0	0	4	0	0	3
All goods not hereinbefore specified and not exempted by the act or Schedule C.	£100 value	10	0	0			

R. M. BARTLEMAN
Consul.

ANTIGUA, *January 7, 1896.*

TEXT OF THE NEW TARIFF LAW.

NO. 1 OF 1896.—AN ACT TO GRANT DUTIES OF CUSTOMS UPON CERTAIN IMPORTED GOODS AND TO ALLOW DRAWBACKS UPON CERTAIN EXPORTED GOODS.

Be it enacted by the governor and legislative council of Antigua as follows:

(1) This act may be cited as the "customs tariff act, 1896."

(2) This act shall come into operation on the 2d day of January, 1896.

(3) The acts specified in Schedule A to this act are hereby repealed; provided that such repeal shall not affect any right acquired, liability incurred, or prosecution pending, or the enforcing of any fine, penalty, forfeiture, or imprisonment incurred or imposed by or upon any person prior to the commencement of this act.

(4) In this act, except where and so far as the subject-matter or the context otherwise requires, the term "goods" includes wares, merchandise, animals, articles, and things; and the term "duty" means duty of customs.

(5) From and after the commencement of this act, the sums specified in Schedule B to this act shall be paid into the treasury for the use of this presidency as duties of customs upon goods of the respective classes, kinds, and descriptions mentioned in that schedule, when imported into this presidency; and proportionate sums shall be so paid upon the importation into this presidency of any greater or less quantities of such goods than those mentioned in that schedule.

(6) (*a*) The following goods shall be admitted free of duty into this presidency, that is to say, all samples, not of salable value, of manufactured and other goods, and all articles intended for exhibition only, and not for sale, which the treasurer, in his discretion and subject to any rules made as hereinafter mentioned, shall allow to be imported into this presidency free of duty; (*b*) it shall be lawful for the governor to make rules for the guidance of the treasurer in the exercise of the powers given to him by this section; (*c*) any person who shall sell or dispose for value of any sample or article admitted free of duty under this section shall be liable on summary conviction to a penalty not exceeding £100.

(7) Goods of the classes, kinds, and descriptious specified in Schedule C to this act shall be admitted free of duty into this presidency.

(8) Goods being the growth, produce, or manufacture of, or raised in, any of the islands composing the colony of the Leeward Islands and goods upon which duty shall have already been paid in any presidency of the said colony, except Dominica, shall be admitted free of duty into this presidency; provided, that the person importing the same shall produce to the treasurer at the time of the importation thereof a certificate signed by the treasurer of the island or presidency from which the same are imported, stating that the same are exempt from duty under this section; provided, also, that nothing in this section contained shall be deemed to exempt any rum within the meaning of any excise act or rum-duty act for the time being in force in this presidency from any liability to excise duty; and provided, moreover, that, where the amount of duty already paid in any presidency shall be less than the amount which, but for this section, would be payable in this presidency, the exemption created by this section shall not extend to the difference between such amounts.

(9) From and after the commencement of this act, upon the exportation from this presidency of any goods previously imported into this presidency in respect of which duty shall have been paid, a drawback of such duty shall be allowed, subject to the following provisos and conditions: (*a*) No drawback shall be allowed in respect of any goods of the value of less than £10 according to the value at which the same shall have been entered, or any goods which shall not have been shipped for exportation within twelve months after the same shall have been imported; (*b*) the exporter shall lodge with the treasurer, before shipment of the goods for exportation, a notice in writing of his intention to export the goods and of his claim to drawback; (*c*) the exporter shall lodge with the treasurer a certificate from a treasury officer of this presidency that the goods are of the value of £10 according to the value at which the same are entered, have been shipped for exportation within twelve months after the same were imported, and have been duly exported; (*d*) no payment of drawback shall be made until the treasurer shall have received a certificate from the proper authority at the port to which the goods have been exported that the goods have been landed there.

(10) Where any imported goods upon which duty has been paid in this presidency are exported from this presidency to any other presidency, except Dominica, the treasurer of this presidency may credit the treasurer of such other presidency in his books with payment of so much of the duty paid upon such goods in this presidency as shall be equal to the amount of duty which would have been payable upon such goods in such other presidency, if the same had been first imported into such other presidency, or with any less amount.

(11) Where any question arises whether any imported goods come within any of the

classes, kinds, and descriptions specified in Schedules B and C to this act, it shall be a condition precedent to a right of action on the part of the importer that such question shall have been referred to the treasurer and the governor in council and have been decided by the governor in council adversely to the importer.

(12) Nothing in this act contained shall be deemed to affect any provisions of act No. 110, entitled ' An act to authorize the importation into this island of foreign reprints of books entitled to copyright in the United Kingdom."

Schedule A.

No. 3, of 1870, an act to allow drawbacks on certain goods, wares, and merchandise, when exported from this island.

No. 2, of 1892, an act to grant certain duties of customs on goods imported into this presidency.

*Schedule B.**

			£	s.	d.
(1)	Aërated and mineral waters	per dozen reputed pints	0	0	6
(2)	Alcoholic liquors:				
	Ale, beer, porter, stout, perry, and cider	per dozen reputed quarts	0	1	6
	In cask	per gallon	0	0	6
	Bitters of all kinds	per dozen reputed pints	0	2	0
	Cordials, liqueurs, and sweetened spirits	per gallon	0	5	0
	Spirits, not sweetened, not exceeding the strength of proof by Sykes's hydrometer and so in proportion for any greater strength of proof, viz—				
	Brandy	per gallon	0	5	0
	Gin	do	0	4	2
	Rum	do	0	3	3
	Whisky	do	0	4	6
	All other spirits	do	0	4	2
	Wine, including all flavored or medicated wine	per £100 value	25	0	0
(3)	Animals:				
	Cattle	each	0	5	0
	Horses	do	1	10	0
	Asses	do	0	4	0
	Mules	do	0	10	0
(4)	Bricks and tiles	per thousand	0	4	2
(5)	Cement	per barrel	0	1	6
(6)	Coal, coke, and patent fuel	per ton	0	2	0
(7)	Drugs (opium, bhang)	per pound	0	10	0
(8)	Firearms and ammunition:				
	Guns	each	1	0	0
	Pistols	do	0	10	0
	Gunpowder and all explosives	per pound	0	0	6
(9)	Grain:				
	Corn and wheat	per bushel	0	0	3
	Oats	do	0	0	3
	Pease, beans, barley, and calavances	do	0	0	6
	Rice	per 100 pounds	0	2	1
(10)	Matches	per gross	0	0	3
(11)	Oil meal, linseed meal, cotton-seed meal, and similar preparations, per 100 pounds		0	1	0

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* See "Increased duties," immediately following Schedule C.

	£	s.	d.
(12) Perfumery and perfumed spirits, hair oil, pomades, powders, toilet or fancy soaps, and similar toilet accessories........................per £100 value...	20	0	0
(13) Provisions:			
(1) Arrowroot, sago, tapioca, and all similar starches and all preparations of the same...............................per 100 pounds...	0	2	1
(2) Beef in pickle or salt...do......	0	4	2
(3) Bread and biscuit, not fancy or in tin, per barrel not exceeding 100 pounds..	0	1	0
(4) Butter...per 100 pounds...	0	8	4
(5) Cheese...do......	0	8	4
(6) Coffee, cocoa, and chocolate.....................................do......	0	8	4
(7) Corn meal...per barrel...	0	2	0
(8) Fish—			
Dried or smoked...per cwt...	0	1	6
Pickled salmon.........per barrel not exceeding 200 pounds...	0	8	0
Pickled mackerel, herrings, and other..............per barrel...	0	2	6
(9) Flour of wheat...do......	0	5	0
Oat meal or rye meal................ ....per barrel...	0	4	0
(10) Fruits and vegetables—			
Canned, tinned, bottled, or otherwise preserved, per reputed pound...	0	0	1
Almonds, currants, citrons, figs, prunes, raisins.....per pound...	0	0	2
Potatoes, except sweet potatoes......................per barrel...	0	1	6
(11) Hams and bacon......................................per 100 pounds...	0	8	4
(12) Lard and its compounds...do......	0	4	2
(13) Macaroni and vermicelli...do......	0	4	2
(14) Oleomargarine..do......	0	8	4
(15) Pork in pickle or salt...do......	0	4	2
(16) Sausages and tongues...do......	0	8	4
(17) Sugar—			
Muscovado and melado...do......	0	4	2
All other...do......	0	8	4
(18) Tea...per pound...	0	0	6
(19) Vinegar..per gallon...	0	0	3
(14) Tallow and oils:			
Candles, except tallow............................ ....per pound...	0	0	2
Candles, tallow...do......	0	0	1
Oils—			
Castor, cod liver, and olive...............................per gallon...	0	1	0
All other, not being rock oil....................................do......	0	0	8
Petroleum and its products.........per case of 8 imperial gallons...	0	1	6
Soap, other than toilet or fancy...........................per 100 pounds...	0	4	2
(15) Tobacco:			
Cigars, except those known as Long Toms......................per pound...	0	5	0
Long Toms....................................... ....do......	0	2	6
Cigarettes... ....do.... .	0	2	6
Leaf—			
If imported in packages containing not less than 500 pounds, per pound......................	0	0	9
If imported in packages containing less than 500 pounds, per pound...	0	2	0
Manufactured (including snuff)............................... per pound...	0	2	6

	£	s.	d.
(16) Wood:			
Cedar and pine shingles............per 1,000...	0	2	1
Cypress and wallaba shingles............do......	0	4	2
Hoops............per 1,200...	0	8	4
Pitch pine............per 1,000 superficial feet of 1 inch thick...	0	8	4
Oak, beech, elm, mahogany, hickory, and all hard woods.......do......	1	0	10
White pine and spruce............do......	0	6	3
Staves............per 1,000...	0	8	4
Shooks............each...	0	0	3
With heads............	0	0	4
(17) All goods not hereinbefore specified and not exempted by the act or Schedule C............per £100 value...	10	0	0

Schedule C (free goods).

(1) Animals, alive, to include only sheep, goats, hogs, poultry, turtle, and all sucking animals.

(2) Baggage, personal, of passengers, containing apparel and articles of personal use and all professional apparatus and workman's tools brought by a passenger for his own use.

(3) Books, printed, whether bound or unbound, pamphlets, newspapers, and printed matter in all languages.

(4) Eggs.

(5) Fertilizers of all kinds, natural and artificial.

(6) Fish, fresh or on ice.

(7) Fruits and vegetables (except potatoes other than sweet potatoes), not being preserved.

(8) Furniture in use, the property of, and imported by, persons coming to reside in the presidency.

(9) Gold and silver coin and bullion.

(10) Ice.

(11) Maps and charts.

(12) Marble and alabaster, in the rough or squared, worked or carved, for building purposes or monuments.

(13) Music, printed.

(14) Packages, viz, boxes, barrels, crates, and inner packages of all kinds; also, packages and coverings (except butts, puncheons, hogsheads, tierces, and trunks) in which goods are actually imported, if usual and proper for the purpose.

(15) Pictures and engravings.

(16) Plants, shrubs, and seeds of all kinds for planting.

(17) Public worship articles specially imported, viz, musical instruments of all kinds, lamps, bells, and ornaments and wine and all furniture to be used in the celebration of divine worship.

(18) Salt.

(19) Shipbuilding materials and accessories of all kinds, when imported for the construction, equipment, or repair of a specific vessel or boat, except rope and cordage of all kinds, including wire rope.

(20) Specimens illustrative of natural history.

(21) Steam engines, boilers, and pipes, and machines, machinery, and apparatus, whether stationary or portable, for agriculture, irrigation, or mining, and all necessary parts and appliances for the erection or repair thereof or the communication of motive power thereto, when not imported for sale.

(22) Surgical instruments imported for the use of the importer.

(23) Telegraph wire, telegraphic, telephonic, and electrical apparatus, and all appliances of all kinds for communication or illumination thereby.

(24) Tombstones, tablets, and railings for graves.

(25) All goods imported for or supplied to the government or the governor or Her Majesty's army or navy and military, naval, and militia uniforms, accouterments, and appointments imported by officers of Her Majesty's army, navy, or militia for their own use. If any goods of this last class on which duty has been paid at the time of importation be subsequently supplied as above mentioned, the amount of duty paid upon the goods so supplied shall be repaid out of the treasury on the warrant of the governor.

INCREASED DUTIES.

NO. 2 OF 1896.—AN ACT TO INCREASE THE DUTIES OF CUSTOMS PAYABLE UPON GOODS IMPORTED INTO THIS PRESIDENCY.

Whereas by the customs tariff act, 1896, it is enacted that the duties specified in Schedule B to that act shall be paid in respect of the goods specified in that schedule when imported into this presidency; and whereas it is expedient to temporarily increase such duties.

Be it enacted by the governor and legislative council of Antigua as follows:

(1) From and after the commencement of this act an additional duty of 10 per cent of the amount of duty payable under the provisions of the said customs tariff act shall be paid into the treasury for the use of this presidency upon all goods of the respective classes, kinds, and descriptions mentioned in the said schedule when imported into this presidency.

(2) Duty payable under this act shall be deemed to be payable under the said customs tariff act.

(3) This act shall be and continue in force for one year from the 2d day of January, 1896.

SIERRA LEONE: RAILROAD, BOUNDARY COMMISSION, TRADE, ETC.

The projected railway (referred to in my report dated July 1, 1895*) between Freetown, in which this consulate is located, and the "hinterland" of this colony, is now destined to become an accomplished fact within a reasonable time, and certainly earlier than was anticipated, the engineers being already on the spot and the work actually commenced. It is generally conceded that the opening up of the country, which is known to be rich in palm and other products, will result in incalculable benefits to the commercial interests of the entire community and in increased foreign trade.

The question of the delimitation of the British and French frontiers is now receiving the active attention of a special Anglo-French boundary commission, which commenced its labors last month. In this connection and with the view to establishing lasting peace between the many native tribes and encouraging and developing trade with the respective chiefs, the governor intends undertaking a third expedition to the various spheres of British influence about the end of January, 1896.

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* Printed in CONSULAR REPORTS No. 183 (December, 1895), p. 408.

With the view to stimulate the natives resident within the colony to the cultivation of the land, a Government curator has been sent from England, and also machinery for the improvement in production and manipulation of raw material.

An agricultural exhibition is to be held in Freetown on or about January 23, when money prizes and certificates of merit will be awarded to successful exhibitors of the articles called for in the official programme, consisting mainly of palm oil and palm kernels, coffee, cotton, kola nuts, ginger, peppers, cocoa, corn, cassava, gum, copra, oilseeds, hides, rubber, calabar beans, dyewoods, timber, peanuts, vegetables, fruits, preserves, live stock, and machinery. Prizes will also be awarded for the best-kept farms and gardens.

A technical school will be completed and formally opened by his excellency the governor on or about the 25th of January. Native apprentices and advanced pupils will be received and instructed in the various branches of practical and scientific mechanics, under an English artisan, and a general effort made to improve the existing condition of things in that behalf.

The customs spirit duty has been raised 50 per cent on all imported liquors and strong waters indiscriminately as to proof or quality. The warehouse rent on bonded goods has also been increased, and, just now, there appears to be a general desire on the part of the executive to raise considerable additional revenue to meet the increased demands upon the financial resources of the colony consequent upon the railway and other public works.

Owing principally to the low prices that have obtained in the European markets throughout the past year, with perhaps the addition of certain local impediments arising from misunderstandings with native chiefs in the interior, the trade of the colony has not by any means been satisfactory, but merchants look for better values in the coming year.

There is a steady increase in the export of kola nuts to the United States.

The importation of American flour, kerosene, lumber, leaf tobacco, and meat products shows an increased tendency, and I look forward to a much greater demand when the railway is completed and the country fairly opened up to commerce.

ROBT. P. POOLEY,
Consul.

FREETOWN, *December 31, 1895.*

WORK ON THE SIERRA LEONE RAILWAY.

Referring to remarks contained in previous reports regarding the first railway now under construction in this colony, and that at the date of my last report the engineers had actually arrived from England to commence the work, I have now the honor to supplement the previous information on this subject by the following brief notes on that portion of the work which has been completed.

The branch line starts from a wharf now being built in Clinetown Bay and about 2½ to 3 miles from the Government landing place in Freetown. This branch joins the main line on what was formerly the race course—say 1,100 yards. The gauge is 2 feet 6 inches, the same as on the main line. The sharpest grade is 1 in 20, for which a special engine will be provided.

The object of this new wharf and branch line is for the landing and carriage of heavy material needed for the railway. The ruling grade on the main line is 1 in 60 to Songo Town, distant 30 miles nearly due east from Freetown. It is proposed to carry this line considerably beyond Songo Town into the interior, but the actual distance and exact route remain in abeyance for the present. The minimum curve of the present line under construction to Songo Town is 4 chains (264 feet), this occurring in one case only, where the line crosses a stream through a deep gully; otherwise, the minimum curvature is 5 chains (330 feet).

The works were started about the end of January last, and, so far, the branch line above referred to is complete except the laying of the rails; also, about 1,200 yards of earthworks of the main line, half of which is on an embankment of an average height of 2 feet and half rock cutting of an average depth of 2½ feet. Upon this length there are about eight culverts, varying from 4 to 6 feet. The rails for this portion of the main and branch lines are expected to be laid by about the end of May. In addition to the branch and main lines, terminal works are in course of construction, consisting of sidings, engine sheds, workshops, and magazine.

Besides the works under actual construction, the survey and location of the line between Freetown and Songo Town (via Clinetown) is also being carried out and will be completed by the end of June. The time intervening between June and the commencement of the next dry season, say October and November, will probably be utilized by the engineers in preparing the necessary drawings for culverts, bridges, and ten viaducts of considerable height and width, and also in having the necessary plant and material forwarded from England, in order that the construction may be taken in hand at various places throughout the line during the present and following years. It is estimated that the line will be finished to Songo Town and open by the end of the year 1899.

I have reason to believe that the engineer in charge will endeavor to obtain a surface line for the first 20 miles. This line follows the lower slopes of the Sierra Leone Mountains, the formation of which is either laterite or cyanite rock, the latter formation being excessively hard and difficult to work.

Except for the ten viaducts already mentioned, the whole of the bridges and culverts will be of small size. The traffic to be carried over this section of the line, as regards exports of produce and imports of general merchandise, will not be very considerable, but it is anticipated that the passenger returns will more than compensate for any loss in the early stage of goods traffic. As the line is extended beyond its present limits, the carriage of produce and merchandise will increase and the passenger traffic correspondingly reduced, owing to the paucity of population in the districts beyond Songo Town as compared with this side, while, on the other hand, the produce area is far more extensive and varied.

The cost of the line now under construction (Freetown to Songo Town) is estimated to be £5,000 ($24,330) per mile, and, as far as can at present be calculated in Sierra Leone, this sum is not likely to be exceeded.

It may be proper to mention that the work on a line of this gauge (2 feet 6 inches) and in a country where the average rainfall is 152 inches requires the construction to be of the most substantial nature, and the rainfall, occurring within the space of four months, renders this all the more imperative in order to avoid risk of disaster, if not actual collapse.

ROBT. P. POOLEY,
Consul.

FREETOWN, *March 23, 1896.*

DEVELOPMENT OF SOUTHEAST AFRICA.*

The business of the port of Beira has improved considerably during the last year, especially in the forwarding of merchandise to Mashonaland. The wagon transport has been stopped for several months, owing to the scarcity of food for the oxen because of the swarms of locusts that have settled down between this place and Salisbury, devouring all green stuff that could be found. Consequently, the transport rates have varied considerably, ranging from $4 to $10 per 100 pounds from Chimoio to Salisbury.

There are a great many difficulties to contend with in this transport service, and it has been decided to extend the railway to Umtali, which is in the Chartered Company's territory, and from there to Salisbury, to connect with the overland railway from Mafeking and Buluwayo, which is in course of construction.

The railway which is being built from this place to Fontesvilla, to connect with the present line, will be open for traffic in the month of May next. When this is finished, the river service will be dispensed with. The goods will be landed at the custom-house, sorted, and loaded into railway trucks. The Mozambique Company is making the facilities much easier for the handling of goods, such as extending the landing jetties, erecting steam cranes, and building new receiving sheds.

The telegraph line is finished to this place, and now we are in communication with the world via Mashonaland. The rates are 10 cents per word to

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*Transmitted by Consul Hollis, of Mozambique, February 13, 1896.

Mashonaland, and from there, the ordinary rates as charged in the Cape Colony.

The natives in this territory have been very troublesome of late, but now that Gungunyana (the only great chief south of the Zambesi) has been overpowered by the Portuguese, they will see that it is useless for them to attempt to show a warlike attitude again and will settle down peacefully and turn their attention to work.

The mining prospects of this territory are looking much better, and it has been decided to abolish prospectors' licenses and to grant concessions on a basis of 20 per cent of the capital of the company, to go to the Mozambique Company.

The agricultural prospects are very promising. Several syndicates have been formed to grow sugar, coffee, mealies (Indian corn), rice, cocoanuts, tobacco, etc. It has not yet been proved whether it will be a success, as the last season was a very disastrous one for the farmers.

The following statement shows the amount of import, export, and transit duties collected at the custom-house at the port of Beira during the last two years: *

Duties.	1894.	1895
Import duty	$85,591.36	$93,173.87
Export duty	1,678.99	1,881.04
Transit duty	5,708.62	20,222.27
Total	92,978.97	115,277.18
Increase	....	22,298.21

Shipping in 1895.

Number of steamers arrived	99
Number of steamers cleared	99
Number of sailing vessels arrived	12
Number of sailing vessels cleared	12
Number of passengers arrived	1,201
Tons of cargo landed	16,772

C. A. ANDREWS,
Consular Agent.

BEIRA, *January 10, 1896.*

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* NOTE BY CONSUL HOLLIS.—In the original report, the amount of duties collected was stated in reis, which I have reduced to United States currency at the rate of $1.08 per 1,000 reis, the sterling exchange in Beira being £1=4,500 reis.

GERMAN-BULGARIAN TRADE.

It is not long since the cities and countries situated on and near the Lower Danube got most, when not all, of their imported goods from England. To-day, it is different; Austria and Germany are now winning this trade.

For some time, the system of consolidation carried out in the Balkan states has helped to develop their internal resources. The building of railroads, canals, and improved highways has aided material prosperity by making the way to markets easier for continental states. The connecting of the Turkish railroads with the European network has done much to make the Balkan countries better known. Bulgaria, beyond all others, has felt the beneficent influences of the changes. The oriental railroad has not only brought its principal cities in touch with the western nations, but has exerted an influence on the building of local roads. The appended table tells its own tale as to the progress of German trade with Bulgaria during a period of fourteen years.

The increase in the exports from Germany to Bulgaria for a series of years has been as follows:

Year.	Amount.	
	Marks.	
1880	154,000	$36,650
1885	549,000	130,662
1889	2,510,000	597,380
1890	2,883,000	687,154
1891	4,485,000	1,067,430
1892	5,574,000	1,326,612
1893	5,853,000	1,393,014
1894	5,687,000	1,353,506

These figures by no means cover all that Germany sent to Bulgaria, for Bulgarian figures show that much larger quantities came out of Germany via Austria. The wares that went from Germany to Bulgaria consisted of all kinds of metal, leather, earthen and glass ware and hardware, drugs, toys, chemicals, dyestuffs, paper, etc.

Bulgaria's total imports of raw materials and made-up textiles in 1894 amounted to 30,340,000 francs ($5,855,620), of which England's share was 12,270,000 francs ($2,368,110); Austria's, 8,730,000 francs ($1,684,890), some of which came from Germany; and Germany's, 3,044,000 francs ($587,492). The total imports of machines, instruments, etc., for 1894 amounted to 5,830,000 francs ($1,125,090), of which Germany sent 3,030,000 francs ($584,790).

Bulgaria, recognizing her own resources and relying upon the experience of others, has begun to build on the very best basis for future prosperity.

No. 188——9.

She has opened in or near Sofia, her capital, State industrial schools, in which, under the direction of skilled teachers, her youth are being taught all kinds of trades. Scholars showing extra skill and talent are sent into Germany, France, and other countries to complete their education—most of them to the schools of Germany.

While Bulgaria's increase in exports between 1890 and 1894 was only 1,800,000 francs ($347,400), her exports to Germany jumped from 496,000 francs ($95,728) in 1890 to 13,020,000 francs ($2,512,860) in 1892 and 11,920,000 francs ($2,300,560) in 1894. During these years, Bulgaria's exports to England, France, and Austria fell off. Bulgarian exports consist, for the most part, of cereals. Of these, she sent out in 1894, 55,870,000 francs' ($10,782,910) worth, of which Germany took 11,310,000 francs ($2,182,830). Russia's trade with Bulgaria fell off from 5,200,000 francs ($1,003,600) in 1890 to 4,950,000 ($955,350) in 1894.

The political changes now going on in Bulgaria will undoubtedly be followed by commercial changes. The demand for Russian products will keep pace with Russia's growth in political influence; hence, Germany may have to buy the grain that she gets now from Bulgaria from somebody else and much of what she sells to Bulgaria must be sold elsewhere. The Slavic population of the Balkan states are turning naturally to Russia.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 10, 1896.*

GOVERNMENT SUPERVISION OF INSURANCE COMPANIES IN GERMANY.

Owing to the rapidly increasing business of the German insurance companies, both fire and life, it has been considered necessary to subject them to more thorough Government supervision as regards their working and management. To this end, some years ago, the Prussian Government issued detailed instructions to all insurance companies operating in Prussia regarding the making up of their accounts. To render the Government control more effective and severe, a resolution was passed by the Chamber of Deputies on May 1 last, with especial regard to the improvement in calculating and the working up of insurance matter in the provinces, where, often, clerks intrusted with such work lacked the necessary technical knowledge involved in insurance business. The want of an expert counselor is also felt at the head office.

The Prussian budget for 1896–97, therefore, provides for the employment of one "insurance technical expert" to be attached to the Ministry of the Interior at a salary of 7,200 marks ($1,714) per annum, and for four "insurance revisors" for the provinces, at salaries varying from 4,500 to 5,700 marks ($1,071 to $1,357) each.

The duties of these new officials will be the continual working up of all insurance matter, with especial reference to deaths, annuities, assets, etc.

In view of the importance of the subject, the change evokes general interest and approval, but it is considered a mistake to select these new officials from candidates who have passed through an academic career rather than from among men who have been trained in insurance companies and possess already a thorough knowledge of the business they are intended for.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *April 4, 1896.*

NOVA SCOTIA STEEL AND THE CANADIAN BOUNTY.

On August 16, 1895,* I reported upon the yearly business of the Nova Scotia Steel Company, the largest producer of iron and steel in Canada. I then stated that a semiannual dividend of 4 per cent had been paid on the preferred stock. In connection with this, it may prove interesting to American manufacturers of steel to learn the amount of bounty paid to this and other Canadian companies by the Dominion Government. The Canadian Minister of Finance recently laid on the table of the House of Commons a statement showing the amounts paid in bounties, at $2 per ton, on steel billets manufactured in Canada from pig iron made in Canada from Canadian ore. From March 31, 1895, to December 31, 1895, the Nova Scotia Steel Company, of New Glasgow, Pictou County, Nova Scotia, produced 26,419 tons, and were paid $52,838. Between April 14, 1895, and January 9, 1896, the Nova Scotia Steel Company, at its branch in Ferrona, 10 miles from New Glasgow, produced 16,263 tons, and were paid $32,526. This makes $85,364 paid to one company for something like nine months' work.

During the same period, the following amounts were paid to the other steel manufacturers of Canada: Londonderry Iron Company, Acadia Mines, Nova Scotia, for 14,530 tons, $29,060; Canada Iron Furnace Company, of Three Rivers, Quebec, 4,920 tons, $9,840; John McDougall & Co., of Drummondsville, Quebec, 629 tons, $1,258.

It will be seen that out of a grand total for Canada of 62,761 tons produced and of $125,522 paid in bounties, Nova Scotia produced 57,212 tons and received $114,424 in bounties.

M. P. PENDLETON,
Consul.

PICTOU, N. S., *April 20, 1896.*

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* Printed in CONSULAR REPORTS No. 181 (October, 1895), p. 246.

A RUSSIAN VIEW OF SEAL HUNTING.

The celebrated explorer of the fauna and flora of Siberia and the Amur region, Mr. Grum-Grshimailo, has declared against the rapacious hunting and killing of the seal in the North Pacific, and is advocating its protection; otherwise, he states, the seal will soon disappear. He says:

The sea bear, called seal, which is hunted on account of its precious fur, is perishing very rapidly because the regulations regarding its hunting are not observed. There are two different species of seal living in the northern Pacific Ocean. One comes from the Pribilof Islands, belonging to the United States, and the other has its origin on the Commander Islands, belonging to Russia. In autumn, the seal moves south to the thirty-fifth degree of north latitude, to the coasts of Japan and California, and in the spring comes back to the islands to breed. To guard these precious animals from extinction, the two governments have forbidden to the hunting companies the killing of seals during their journeys in the open sea, the slaughter of any females or elderly males, and the use of firearms, only clubs being permitted. If these regulations were strictly followed, the seal would multiply in a few years greatly, and would bring to both governments a large revenue; but such is not the case. The seals are caught on their way from the south in large herds by the companies and killed.

How great is the number of animals killed, can be judged from the quantity of skins taken to the London market, which, during the last fifteen years, was as follows:

Year.	Number.	Year.	Number.
1880	13,500	1892	72,973
1885	28,335	1893	106,368
1890	48,166	1894	142,000
1891	64,816	1895	97,433

But as the seal hunter kills with firearms principally pregnant animals (90 per cent), it can be justly calculated that he destroys double the number of animals shown. The decrease of the seal herds has become very considerable during recent years, as may be seen from the following figures:

Year.	No. in Russian herd.	No. in American herd.
1885	41,924	99,874
1886	54,021	99,947
1887	46,531	99,949
1888	43,518	100,037
1889	52,073	100,031
1890	56,978	25,152
1891	30,689	13,494
1892	31,315	7,554
1893	32,830	7,500
1894	27,298	16,030
1895	17,721	15,002

In 1896, an increase of 8,000 heads is expected on the Russian islands.

England declared against such wasteful hunting of the seal, and made an agreement with the Russian Government, according to which Russia bound herself not to kill more than

30,000 animals per year, and gave an English agent the right to control the seal hunting. But this agreement was of no effect.

The extinction of the seal is of great economic importance to Russia. On the Commander Islands there are two animals worth hunting—the seal and the blue fox. The blue fox feeds on the flesh of the killed seal, and, therefore, with the extinction of the seal, it would also perish. The hunting of these two animals is nearly the only source of income for the inhabitants of these islands, who would remain without bread should the animals disappear.

The fur duty paid to the Government by the inhabitants of the Commander Islands and by the Russian Seal Skin Company was, during the last five years, as follows, in paper rubles:

Years.	For seal skins.	For blue fox.	Total.
	Rubles.	*Rubles.*	*Rubles.*
1891	415,710	....	415,710
1892	491,724	35,012	526,736
1893	521,837	144	521,981
1894	420,029	32,393	452,422
1895	270,913	176	271,089

At present, the United States Government intends to quit, for a certain time, the seal hunting. It would be in the interests of Russia to follow the same rule, in order to put an end to the waste.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 10, 1896.*

RUSSIAN REGULATIONS AS TO IMPORTS OF PLANTS, FRUITS, AND VEGETABLES.

New regulations concerning the importation of plants, fruits, and vegetables into Russia, in order to guard against phylloxera, have been prepared and published by a special committee appointed by the Minister of Agriculture and Crown Domains. The regulations differ from those that have been in force until now in these particulars:

(1) The number of countries from which the importation of plants, fruits, and vegetables into Russia is permitted has been increased. The new countries are France, Italy, and Austria, of European countries; China, Japan, East Indies, and the islands of the Indian Ocean, of the Asiatic countries.

(2) A number of new custom-houses have been added to those through which the importation of the above-mentioned articles were permitted. The new overland custom-houses are Taurogen, Jurburg, Neshavsk, Verushovsk, Granitca, and Radziville; also, all the ports of the Baltic Sea, which formerly were closed, and the port of Novorossisk, on the Black Sea, with the exception that the permission of the Minister of Agriculture must be obtained each time as to the last-named place.

(3) The inspection of the plants need not be made exclusively at the frontier custom-houses, as required by the old regulations, but may be made at the place of destination, if there is a custom-house.

As the new regulations include countries in which phylloxera exists to a great extent, which may be sending said plants, fruits, and vegetables to Russia, the new regulations require stricter certificates to accompany plants coming from European countries. Such certificates must show, besides what was required formerly, that there has been no phylloxera within 1 kilometer of the place from which the plants are sent, and also that there was no entrepôt of vine branches on the place.

JOHN KAREL,
Consul-General.

St. Petersburg, *April 2, 1896.*

NOTES.

Exposition at Brussels in 1897.—The Department of State has received an invitation, through the Belgian minister, for the participation by the United States in the International Exposition to be held at Brussels, beginning April 24 and closing November 1, 1897, and the Secretary of State, in a letter to the Secretary of the Treasury, has recommended that Congress be asked to appropriate the sum of $35,000 to enable this country to be properly represented by a commission. Attention is called to the fact that the Belgian Government participated officially at the Chicago Exposition in the most liberal manner, and the opinion is expressed that the industrial and commercial interests of the United States would be greatly promoted by a creditable exhibit. "Although," it is added, "the great bulk of our exports to Belgium consist of raw products and food supplies, a considerable quantity—between $2,000,000 and $3,000,000 worth—of manufactured goods is purchased annually by that country from the United States, and the fact that, notwithstanding her great industrial development, Belgium imports largely of the finished products of other advanced manufacturing countries, such as France and England, encourages the hope that similar lines of goods from the United States may find a much larger sale in Belgian markets. As conducive to that result, a proper representation of this country at the Brussels exhibition is obviously most desirable."

In his note transmitting the invitation, the Belgian minister states that the exposition will be under the patronage of his Government, the Province of Brabant, and the city of Brussels. The object of the exposition is "to show the progress of industry, to invite the producers to various competitive contests, and to reward the winners."

There will be fourteen sections, namely, (1) fine arts, (2) social economy, (3) hygiene, (4) life saving, (5) industrial and decorative arts, (6) lighting, heating, and their devices; (7) electricity, traction; (8) military science; (9) manufactures, raw materials, methods of manufacture, and their products; (10) sporting articles, (11) athletics and popular games, (12) temporary agricultural and horticultural competitions; (13) practical teaching, female industries, and manual work; (14) commerce, colonies. The divisions of the international competitions will represent a series of special exhibitions, each of which will be reserved for objects of the same category. In each of the subdivisions, there will be competitive contests relating to the problem the solution of which constitutes a requirement for the group entering each competition. Awards in money will be granted for the solution of the problems.

In addition to these competitions, there will be held by the organization of the foreign sections an exposition at which the different countries may freely exhibit their products.

The Government has appropriated for the use of the exposition the park of Cinquantenaire, with its museums and annexes. His Majesty the King, desirous on his part to testify his interest in this enterprise, has placed at the disposition of the exposition the royal domain of Tervueren. The productions of the Independent State of the Kongo, the games that are the subject of section 11, as well as various other attractions, will be placed on exhibition there.

The park of Cinquantenaire will be connected with the royal domain of Tervueren by means of electric cars running through a new avenue, which, from its vast dimensions and picturesque situations, will form one of the most beautiful thoroughfares of the capital.

Guatemalan Exposition of 1897.—Mr. Antonio Lazo Arriaga, minister from Guatemala at Washington, in a note to the Secretary of State, dated April 9, 1896, says: Pursuant to that which the Legislative Assembly of Guatemala has determined in a decree of May 8, 1894, a Central American Exposition will take place in the capital of that Republic, which will be opened March 15 and closed July 15, 1897. The object of this undertaking, the branches it will embrace, and the rules to govern exhibitors are expressed in the general regulations I venture to send you to-day. Though this exposition is of a Central American, and not of a universal, character, it will nevertheless comprise a "foreign section," where the exhibitors of the other countries may exhibit all they wish to submit respecting science, agriculture, industry, and commerce, in conformity with the classification annexed to the respective regulations; and, accordingly, my Government directs me to acquaint you with the aforesaid, and, in proper season, to express to you the pleasure with which Guatemala will see represented in the foreign section of the Central American Exposition the products of the talent and labor of the sons of this prosperous and progressive nation.

Model Village at the Swiss Exposition.—Consul Ridgely, of Geneva, under date of March 4, 1896, transmits a communication from Mr. Theodore Turrettini, president of the Swiss National Exposition for 1896, together with a copy of the official journal of the exposition referred to in President Turrettini's letter. The letter is as follows:

EXPOSITION NATIONALE SUISSE, GENEVE, 1896.
Geneve, February 28, 1896.

BENJAMIN H. RIDGELY, Esq.,
United States Consul, Geneva.

SIR: I have, for some time past, taken cognizance of the information which has reached me through the public press and other channels of the congested state of the large centers of population in America and the growing reluctance of the people to reside in rural districts and engage in the cultivation of the soil. Many remedies, I am aware, have been suggested, but I venture to hope that in sending you a copy of No. 10 of the Official Journal of the Swiss National Exhibition, together with the supplement, and drawing your attention to the illustrated description of the Swiss village, I may be indicating a direction in which your fellow countrymen may possibly find some remedial suggestions.

This model village, which has been in course of construction for nearly a year past, will form an important section. The houses will be inhabited by peasant families, who will engage in the numerous home industries which have made village life in this country attractive and profitable.

If this be studied in connection with the agricultural section, in which our methods of dealing with produce will be exemplified, and the best breeds of cattle exhibited, much valuable information may be obtained which might prove to be of substantial value to persons who are seeking to solve the problem of overconcentration of population.

Should you esteem this suggestion to be of sufficient importance, would you kindly bring the import of this letter under the notice of your Agricultural Department?

If further information be required, the executive committee desire me to assure you that they will freely and cheerfully afford every facility.

Believe me, etc.,

T. TURRETTINI,
President.
PAUL PICTET,
General Secretary.

Mozambique and South African Trade.—Consul Hollis, of Mozambique, in a report dated December 31, 1895, says: The year now ending has been a very uneventful one here; there has been a general stagnation throughout those quarters of the province situated north of the Zambesi. Trade has been very bad; how bad, it is impossible to say, as the Government here seems to have given up publishing the usual customs returns. Early in January, the governor-general was removed and a royal commissioner was sent from Lisbon to administer the affairs of the province. This gentleman spent two days here and then left for Lorenzo Marquez, where he has been ever since. The secretary-general was left in charge here nominally, but the Government actually has been administered from Lorenzo Marquez. The Government naval stores and arsenal have, during the year, been discontinued, and their staffs, stores, and machinery have been transferred to Lorenzo Marquez. This port is no longer a naval station.

We are of opinion that if matters go on as they have for the past few years, the permanent seat of the government of the province will be Lorenzo Marquez, instead of Mozambique.

Ibo has not prospered during the year. The oldest trading house in this province is probably that of Messrs. Fabré et fils, of Marseilles. Their first factory on this coast was located at Ibo, and, years ago, they did a good business and gained enormous profits there; but lately, they have been making no money at all and last month they closed their Ibo factory for good. According to Messrs. Fabré's head agent here, native disturbances, locusts, and better trading facilities in the German territories to the north, etc., are the causes of this decline of Ibo.

South of the Zambesi, trade has been very good indeed, and the prospects for the coming year are excellent. The government of Beira still continues to be administered by the Mozambique Company, and, as the leading officials are generally stockholders in the company, the government has been administered well. The governor, Colonel Machado, is a very energetic man, and is continually inaugurating new public works and improving old ones.

Beira is a wonderful town. Five years ago, it was an unknown sand pit, with nothing on it but a dismantled mud fort and a few wattle and daub huts; now it is a thriving port, with many large business houses and with very fair landing facilities. It is connected by telegraph with all parts of South Africa and is therefore in communication with all parts of the world reached by cable. One hundred and eighteen miles of railway, connecting Beira with the interior, have been built and are in operation, and 35 miles more are at present under construction and will probably be completed and open for traffic in a few months. Before long, the line will be extended to Mashonaland. Some half dozen steamship lines run regular vessels to Beira and express mails from Europe are received weekly. The vessels of two steamship lines from New York to South Africa call at Beira when inducements offer or transship into other vessels. Large quantities of goods of all descriptions, especially provisions and building materials, are being imported and trade is increasing rapidly.

Seven or eight years ago, the mining industry in the Transvaal was in about the same condition as to development as that in Mashonaland is to-day. To-day, the mines of the Transvaal are turning out over 200,000 ounces of gold per month, which, valued at $17.50 per ounce, is worth $3,500,000, thus making the annual output over $42,000,000.

Mines in Mashonaland, however, are being much more rapidly developed than those of the Transvaal were in the early days. Moreover, reliable mining experts have stated time and again that the gold reefs in Mashonaland and Matabeleland are, on the whole, richer and more extensive than those of the Transvaal, and there is no reason why these countries, along with Manica Sofola, should not be soon close rivals of the Transvaal as gold-producing states.

The Transvaal trade has brought prosperity to the Cape ports, to Durban and Lorenzo Marquez. Mashonaland, from its geographical position, must continue for many years to be served by Beira only, and such being the case, Beira must soon rival the southern ports in size and importance.

At Lorenzo Marquez, the importation of goods in transit for the Transvaal keeps everybody busy, as enormous quantities of goods have to be handled. The railway and dock facilities there still continue to be as bad as can be imagined. These matters have been reported upon by me before. The local trade, on account of the war with the Kaffirs, is almost nil.

I find it very difficult to get reliable news from Lorenzo Marquez. We have but one regular mail per month from there and it takes some three weeks to get an answer to a letter.

The Delagoa Bay native war seems to have come to an end. The Portuguese claim to have beaten Gungunyana. The most reasonable explanation is that the Kaffirs have disbanded and gone to their kraals to plant their corn, as this is the planting season. The Portuguese, finding that they were no longer being threatened by the enemy, were very glad to bring the campaign to a close, as it has cost them several million dollars and a great many lives.

Insurance Companies in Japan.—The Japanese minister at Washington, Mr. Kurino, in a note to the Secretary of State dated March 30, 1896, says: In compliance with the wish expressed in your communication of the 9th of last October, relative to life and accident companies in Japan, I had the honor to address His Excellency the Minister for Foreign Affairs upon the subject, and am now in receipt of the following information: There are no accident companies in Japan. There are one hundred and thirty-two companies and associations, which are either life insurance companies strictly speaking or associations supported by mutual contributions and designed to secure certain specified benefits to the members. These companies and associations have an aggregate capital of 5,607,605 yen, but only thirty-four of them have a capital of more than 10,000 yen each. The number of persons insured is 337,307 and the total of the policies is 60,264,154 yen. None of the reports of the companies or associations are written in English, but I have the honor to transmit herewith an English translation of the "Prospectus of the Nippon Life Insurance Company." So far as I am advised, no foreign life or accident companies do business among the Japanese people. Several such companies, however, have agents at the open ports, but I believe that their business is confined to foreigners in those places.

Growth of Shanghai.—Consul-General Jernigan, of Shanghai, reports to the Department March 5, 1896: The report for 1895 of the municipal council of Shanghai is interesting, as showing the growth of the city in population and as a manufacturing center. In 1885, the population was 125,666; in 1890, 171,950; and on June 1, 1895, 245,000. The figures represent the number living within the foreign settlement of Shanghai and not the residents of the native city. The native (Chinese) city is inclosed by a wall and contains about 200,000 inhabitants. Of the number residing in the foreign settlement, about 5,000 are foreigners, composed of all nationalities, but in numbers dominated by British. The foreign settlement has a police force of 500 and a military organization of about 400. The military organization is composed entirely of foreigners, and is well equipped as infantry, cavalry, and artillery, regularly officered and drilled. From the opening of the port of Shanghai, about fifty years ago, to within the last five years, it was chiefly an emporium for the distribution of goods from foreign countries and the export of the staple articles of Chinese trade, but now it is fast becoming a great manufacturing center, and the settlement is admirably suited for the purpose. Before 1890, there were only five mills located within the settlement or adjoining the outside roads; now there are fifty-three erected or nearly completed, and these embrace cotton mills, silk filatures, and factories.

Decline of American Kerosene Trade at Amoy.—Consul Kemper, in a dispatch to the Department from Amoy, China, dated December 23, 1895, says: In the absence of anything else in the commercial line likely to be of interest to the Department, I venture to make mention of the lamentable decadence in the sales here of American kerosene within the past year. This falling off is not due at all to any diminution in the demand for kerosene or in the desire of the Chinese to use the American oil; but it is the evident consequence of the installation here last spring by the agents of the Russian oil of a system of tanks, supplied by steamers that bring the Baku product in bulk, thus enabling its sale at a price slightly lower than the usual charge for American oil. The chief harm to our trade grows out of the fact that the Chinese dealers buy up old American tins, have them filled at the tanks with the Russian oil, and ship them in large quantities to the interior. The extent to which our petroleum trade has suffered is indicated by the following figures furnished me by the agents of the Standard Oil Company: In 1893, 97,861 cases of American kerosene were imported and sold here; in 1894, 255,039 cases; and in 1895 (to November 19), 57,000 cases. Confident that such wholesale use of the old tins is contrary to the Chinese law of trade-marks, and sustained also by recent decisions on this very point by the mixed court at Shanghai, at the request of the agents I warned the principal Chinese dealers that persistence in such improper use of the trade-mark of the Standard Oil Company would subject them to prosecution before the proper Chinese tribunal. The agents assured me that this warning had, to a great extent, suspended the evil for a time and had given them good hope of a speedy restoration of their trade to its former dimensions.

Wages in India.—Consul Morris, of Ghent, in referring to the jute manufacturing industry of Belgium as affected by outside competition and conditions, says:

The extension of jute manufactures in East India has likewise had a great effect upon the Belgian industry. Far from competing abroad, jute weaving is even meeting competition in the home market. The Indian weavers exported to Belgium during the first ten months of the year 1,009,465 sugar sacks at prices such as to defy all competition. To what must this fact be attributed? To the low prices of hand labor. It is interesting to note the following details respecting East Indian jute weaving, given by the secretary of the Bengal government:

Wages paid to different classes of working people employed in the district of Hoogly, India.

Name and locality of establishment.	Monthly wages of weavers.	Weekly wages of day workers.
Wellington Jute Mills, Kishra:		
Men	$1.05 to $5.88	$0.32 to $1.05
Women		.29 to .63
Boys		.21 to .63
Girls		.21 to .29
Indian Jute Mills, Serampore:		
Men	2.10 to 5.25	.32 to .95
Women		.26 to .37
Boys		.16 to .46
Champday Jute Mills:		
Men	2.10 to 6.30	.29 to 1.05
Women		.23 to .25
Boys		.16 to .32
Victoria Jute Mills:		
Men	1.05 to 5.25	.32 to 1.00
Women		.26 to .37
Boys		.16 to .32
Bally Bone Mills, Witterpara:		
Men	1.47 to 6.30	
Women	1.05 to 1.16	

Machinists earn $1 to $1.75 per week; European employees only are well paid. Managers earn $2.10 to $3.15 per month, with a commission of 1 to 2½ per cent on the dividends. There existed in 1893, in the district of the twenty-four Paraganas, 14 spinning and weaving establishments; in the district of Howrah, 5; in the district of Hoogly, 5. The average number of workmen employed in an East Indian jute factory is estimated at 2,542, while in cotton factories they number about 1,117.

Angora Goats and the Mohair Trade.—Consul Meeker writes from Bradford, March 24, 1896: As much interest has been aroused in the United States regarding the production of mohair and the breeding of angora goats, I beg to confirm statements made in my report on the subject a few months ago.*

Hon. Cecil Rhodes, ex-Premier of Cape Colony, South Africa, was able, through personal influence with the Sultan of Turkey, to procure a fine selection of rams and ewes. To show that interest has not lapsed at the Cape, I quote from a recent reliable newspaper publication:

> Angora goat farmers at the Cape seem to be making commendable efforts to improve the breed of their animals, and consequently the quality of the mohair they produce. In addition to the angoras imported from the Turkish provinces at the instance of Mr. Rhodes recently,

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*See "Revival of the mohair trade," CONSULAR REPORTS No. 182 (November, 1895), p. 366.

Messrs. Mosenthal, a well-known Port Elizabeth firm, obtained the Sultan's permission (no easy matter) to purchase in his dominions goats for South Africa, and, by last mail, there is an interesting account of the public sale of the animals. All the leading goat farmers of the Colony were on the spot, and an extraordinary amount of interest centered in the auction. All day the talk in the town was of goats—the Transvaal crisis, the tour of the English cricketers, and other current topics of importance dropping into comparative insignificance. The British consul had certified that all the goats were perfect when they left Turkey. This was a very necessary assurance, because, on former occasions, it has often been discovered that the wily sons of the prophet had rendered the rams impotent before shipment, and they consequently proved a serious and annoying loss after arrival in South Africa. There was spirited bidding, and the ninety-one rams averaged $258.75 each. One magnificent fellow fetched $1,605.95, and others $846.75, $754.30, $584, $511, and $352.80, respectively. The nineteen ewes realized an average of $205.50 each, the highest being $547.50 and the lowest $73. The goats have been guarantied for a period, and the Cape veterinary surgeon certified that they were free from disease. A few years ago, there were dreadful losses in the Cape Colony through lung diseases, introduced by some goats from Asia Minor. The opinion was generally expressed by experts that the importations were well calculated to improve the flocks, and consequently the quality of the mohair produced. The short lengths, so little in favor at Bradford, are from the mixed breeds at the Cape.

Intending breeders in the United States might be enabled, by similar efforts, to secure goats for stocking purposes from the Turkish provinces.*

Wages in the Bradford Dyeing Trade.—Consul Meeker, of Bradford, says, in a report dated March 16, 1896: The Yorkshire Dyers' Combination, consisting of the Yorkshire Piece Dyers' Association (proprietors) and the Amalgamated Society of Operative Piece Dyers (workmen), the local branches of the Gas Workers' and General Laborers' Union, have recently agreed upon a new standard of weekly wages, which shall be the minimum rate paid for the ensuing year. As this schedule may be of interest to the United States manufacturers, I append it:

Description.	1.	2.	3.
Crabbing:			
First man	$6.32	$6.08	$5.85
Second man	5.85	5.60	5.35
Singeing:			
First man	6.32	6.08	5.85
Second man	5.85	5.60	5.35
Black dyehouse machines, first man	5.85	5.60	5.35
Jiggers, first man	5.85	5.60	5.35
Color dyehouse machines, first man	5.85	5.60	5.35
Padding, first man	5.85	5.60	5.35
Drying machines, first man	6.32	6.08	5.85
Washing-off machines, first man	5.85	5.60	5.35
Black-rolling department, first man	5.85	5.60	5.35
Firers	5.85	5.85	5.85

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*A report on the Angora goat, with a view to its introduction into the United States, will be found in CONSULAR REPORTS, No. 31, p. 1.

This list of wages is to obtain for twelve months, the period for which the signatories to the agreement are bound. At the expiration of the twelve months, any of the parties may give three months' notice to terminate connection with the combination.

British Consular Officers and Trade.—Under date of Bradford, April 17, 1896, Consul Meeker writes: "I forward herewith an article taken from the April issue of the Textile Recorder, of Manchester, England, recognized as one of the leading trade journals of its class in this country." The article, headed "The duties of consular officers," says:

> In the reports of Her Majesty's consuls at Havre and Calais, notice is taken of the complaints which are made of the alleged inattention of our consuls to the commercial interests of this country. It is frequently stated that in this respect our representatives compare very badly with those of other countries who are at times depicted as a sort of conglomeration of all trades. We take leave to doubt that this is at all an accurate picture, but there appears to be reason to believe that in many respects the consuls of other states do more in this direction than ours. Of all the ineffective ways of pushing a trade, that of sending trade catalogues to the various consuls is the worst, especially as these are simply those circulating in this country. Of what use is it to send to Russia or Italy, for instance, a priced catalogue, in which the descriptions, specifications, and quotations are all in English? What the customer wants is a catalogue from which he can extract all the necessary information in his own language and with the prices given in his own currency, including freight and duty. When these documents are prepared, it is idle to send them to consuls for display, just as we are convinced the dispatch of technical journals to the same quarters is. Few people going to a consulate have the time to spare to look at them; they are there for other purposes. Besides, it is too much to expect a consul to be an exaggerated commercial traveler. These duties should be delegated to the right persons, who should be, as Mr. Consul Keene, of Calais, says, persons "with the persuasive manner of the well-trained traveler or agent of other countries, of Germany especially, who has made a study of the business habits and requirements of the several districts he visits." Traders in this country will have to look to it, and if objections be raised on the score of expense, then it may be pointed out that other countries get over the difficulty by the combination of two or three firms in different departments. What we ought to look for is the acquisition of consuls who will make it their duty to do what their American and German brethren do—collect the fullest information on the trade of their districts and transmit it. We have from time to time published reports from American consuls which have been mines of information, such, for instance, as the one dealing with the growth of cotton in Turkestan. No one who has watched the change in our Foreign Office reports during the past few years can have failed to be struck by the gradually increasing commercial element. This has become very noticeable, and although it is more marked in some cases than in others, it is perceptible in the great bulk of them. Sir Charles Oppenheimer's reports from Frankfort, like those of Mr. Jamieson, from Shanghai, are of the grander type, taking a wide survey, but there are many others, such, for instance, as those from Havre and Rouen, recently published, which are very useful. It can not be expected that these offices shall always be filled by experts in some particular industry, but if their occupants are capable of collating particulars derived from reliable observers at hand, they can render useful service. We do not want representatives of the ornamental type, who simply "chronicle small beer," nor can we expect competent commercial experts in every trade, but between the two there is plenty of scope for capable, shrewd, and willing observers.

Bradford Chamber of Commerce and United States Consular Reports.—In a report dated March 25, 1896, Consul Meeker transmits a copy of a letter received from the secretary of the Bradford Chamber of Commerce, as follows:

BRADFORD CHAMBER OF COMMERCE,
March 23, 1896.

CLAUDE MEEKER, Esq.,
United States Consul, Bradford.

DEAR SIR: I am greatly obliged for the volume of CONSULAR REPORTS you have been good enough to hand me in answer to my request for a copy of your report on mohair. I have shown the volume to the president and some other members of the chamber, who consider the reports to be very satisfactory specimens of what a consular report should be. I may mention that the president is taking the volume with him to the meetings of the Association of Chambers of Commerce, which commence in London to-morrow, and that it is possible he may make some reference to these reports in the course of the discussions.

Would you kindly inform me whether it is possible to purchase copies of these volumes as they appear, and if so, where and at what price?

Yours faithfully,
FREDK. HOOPER,
Secretary.

"Commenting upon the foregoing," adds Mr. Meeker, "I beg to say I shall be glad if arrangements can be made to furnish the chamber with our CONSULAR REPORTS. Its members and officers have always been most courteous in affording me, as the representative of the United States, every possible facility for obtaining information, not alone concerning exportations, markets, prices, wages, etc., but information which would also help to increase our commerce and the consumption of American products here."

American Leather Manufactures in England.—Under date of April 15, 1896, Consul Meeker, of Bradford, transmits the following extract from the London letter of the Bradford Daily Argus of April 13, as being of interest to shoe and leather manufacturers in the United States:

A shoe and leather fair was opened at the Royal Agricultural Hall to-day. It is almost incredible, but appears nevertheless an undoubted fact, that the Americans, owing to their improved machinery, can export bullocks to England, take back the hides, make them into shoes, and reexport them to England at a less price than they can be turned out in this country. The French have brought the manufacture to a fine art, the Americans having followed very closely at their heels, and the model factory has been stocked with the latest American inventions, not so much to show the American system in its highest development as to illustrate how that system may be best modified to suit the conditions as to labor, etc., under which English shoe manufacturers have to work.

Heating of Houses in Wurtemberg.—Consul Johnson, of Stuttgart, writes to the Department March 28, 1896: Several manufacturers of steam-heating, hot-air, and other furnaces have addressed me of late upon the subject of introducing their different modes of heating in this country.

German houses are to this day heated almost exclusively by stoves. Nearly all new houses are divided into flats or apartments and inhabited by several families. The high price of coal and the necessity of heating each room separately causes most families (even the well-to-do) to confine themselves in winter to one or two rooms, the others being used only on special occasions. The growth of all the larger German cities is immense, in some instances rivaling American towns in their increase of population. In this city, one can go in any direction and find building being pushed in every street. Considering these facts and the dirt, unnecessary labor, and inconvenience of stoves, not to speak of their great ugliness, one becomes convinced of an opening for American ingenuity to furnish some better mode of heating than that now in use. German firms, in advancing their trade, are sending agents to all parts of the world. When the expense is too great for one firm, several firms in the same line of trade send an agent. They know that personal effort is necessary, and that, let the consul be ever so willing to assist, it is out of his power to help them beyond a very limited extent.

While in old houses, few landlords would probably go to the expense of introducing flues or steam pipes, yet in the new houses, they would probably find one central means of heating cheaper. The greatest difficulty to be solved in the introduction of furnaces would be, how would the necessary labor in connection with attending to the furnace be divided between five or six families and what proportion of the cost of heating should be borne by each?

Austrian Regulations as to Imported Cattle.—The Department of State has received a note from Mr. Hengelmüller, minister of Austria-Hungary to the United States, dated April 17, 1896, in which he says: Pursuant to advices from the Imperial and Royal Ministry of the Interior, shipments of cattle have of late been arriving from Germany at the Austrian frontier stations for which either none or only defective animal certificates were provided. A part of these shipments have their origin in the German Empire and a part of them only pass through German territory and issue from the Netherlands (cattle), from Belgium (draft horses for breeding purposes and for use), from England (breeding horses, riding and driving horses, and race horses, also sheep and hogs for breeding purposes), and from the United States. From the latter country, larger shipments of horses have been made, and 1,000 head more are expected soon to arrive for importation. The American horses usually arrive at Hamburg by steamship from New York, and are shipped directly, or after several days' detention in Berlin, to their destination in Austria-Hungary, and, as a rule, are only accompanied by a general certificate from a Hamburg veterinarian.

In order to prevent shipments from the United States from a possible refusal of admission at the Austrian frontier, I have the honor, Mr. Secretary of State, by order of my Government, to ask of you to request the

Government of the Union to call to the attention of those parties interested in the subject, and in connection herewith perhaps also of shipping concerns, that with regard to the importation of animals over our western frontier the provisions that govern are article 4 of the Austrian statute of February 29, 1880, Reichsgesetzblatt (Imperial Statute Journal) No. 35, and the regulations of April 12, 1880, carrying it into effect (Reichsgesetzblatt No. 36), pursuant to which domestic animals are permitted to enter only on presentation of cattle certificates wherein their healthy condition at their departure from their permanent abode is certified to.

These animal certificates are required to be issued officially and to contain detailed references, special characteristics, and, finally, the certification that the animals were in good health at their departure, and that they come from a place wherein, and in the neighborhood whereof, at the time of departure, no disease infectious to this class of animal had prevailed.

Domestic animals for which such statements can not be shown, or which, despite such certificates, are stricken with a contagious disease or declared suspected of its contraction, are not permitted to be imported.

New Vessels Between Palermo and Naples.—Consul Seymour writes from Palermo, March 12, 1896: I have the honor to state, for the benefit of American tourists, that new and magnificent vessels constructed on the order of the Hamburg-American and North German Lloyd steamers, uniting the best qualities of both for the accommodation of passengers and capable of making a speed of 17 knots, have replaced some of the vessels that formerly plied between Palermo and Naples. Other vessels, sister ships of those recently put on, are under course of construction and soon will replace the remaining old vessels. The new vessels will leave Palermo and Naples at 7 and 9, respectively, every evening and will arrive at their destinations the following morning in time for passengers to take the first morning trains.

Proposed Changes in Portuguese Tariff.—Minister Caruth transmits from Lisbon, March 26, 1896, a copy of the report, etc., of the Portuguese Secretary of the Treasury, laid before the Cortes on the 16th of that month, which he had received from the Minister of Foreign Affairs. "The most important part of the report," adds Mr. Caruth, "occupies itself with suggestions as to the bonded debt of the Kingdom; it covers also proposed changes in taxation, including the tariff. These, after their discussion in the Cortes and their enactment as law, will be reported by me to the Department. The proposed tariff changes, so far as I have been able to determine, do not affect American goods now being dealt in here."

Tariff Changes in British Guiana.—Consul Patterson transmits to the Department from Demerara, March 13, 1896, a copy of the ordinances of British Guiana for the year 1896; also, a memorandum showing the increased tariff on American products. This memorandum is as follows:

Statement showing increased duties on importations from the United States into British Guiana.

Articles.	Former duty.	Present duty.
Beef and pork	75 cents per barrel	$1 per barrel.
Tobacco:		
In 800-pound packages	30 cents per pound	40 cents per pound.
In smaller packages	35 cents per pound	55 cents per pound.
Manufactured	45 cents per pound	90 cents per pound.
Cigars and cigarettes	$1.20 per pound	$2 per pound.
Snuff	75 cents per pound	$1.50 per pound.
Corn	10 cents per bushel	14 cents per bushel.
Beans and pease	5 cents per bushel	15 cents per bushel.
Horses	$7 per head	$10 per head.
Mules	$5 per head	Do.
Sheep	Free	$1 per head.
Hogs and pigs	do	Do.
Fresh meats	do	1½ cents per pound.
Gun and pistol cartridges	75 cents per 100	$1.50 per 100.

Banana Shipments from Jamaica to England.—Consul O'Hara, of San Juan del Norte, Nicaragua, sends the Department, under date of March 16, 1896, a reprint in the Bluefields Recorder of March 7 of a paragraph in the Colon Telegram relative to the shipment of bananas from Jamaica to England, which says:

> Bearing upon the question of opening up a trade in bananas with England, we find in our Jamaica files that at a meeting of the agricultural society there, presided over by the governor, his excellency stated that two experimental cargoes of bananas forwarded by Mr. Kerr had reached England in good condition and found a satisfactory market. It is stated that efforts are being made toward the establishment of a line of English fruit steamers without any Government subsidy.

Harbor Improvement at Hamilton, Bermuda.—In a dispatch dated Bermuda, March 23, 1896, Consul Hanger says: I have the honor to inclose an extract from the Royal Gazette containing a general account of the completion of the channel, the result being that vessels drawing 20 feet can come in at low tide direct to the wharf at Hamilton. The Gazette article says:

> The whole of the works contracted for by Messrs. S. Pearson & Son, under their contract with the board of public works of Bermuda for the improvement of the Staggs channel and Two Rocks passage, dated the 1st of June, 1893, have been duly executed and completed by the contractors to the satisfaction of the colonial surveyor, Mr. W. Cardy Hallett, who has had the inspection of the works during their entire progress.

* * * * * * *

> The buoys were placed in the Two Rocks passage on Friday afternoon, and it is hoped that those in the Staggs channel may be put down to-morrow. The buoys are black on

starboard and checkered on port coming from sea. It is desirable, pending definite regulations, that all vessels using these channels should come through at a speed not greater than 8 knots per hour, to avoid all possible injuries. The steamship *Trinidad* yesterday afternoon passed through the Two Rocks passage on her way to sea. The S. D. *Majestic* is now at anchor in Hamilton harbor awaiting order.

Metallic Sand at Martinique.—From Martinique, March 12, 1896, Consul Tucker reports: Having learned that heavy deposits of black sand existed on the Atlantic side of this island, as well as on Guadeloupe Island, which were said to contain a large percentage of oxide of iron, I have made diligent inquiries regarding said deposits and am now in possession of facts which may be of interest to our iron manufacturers. There exists upon this island an inexhaustible supply of metallic sand, the concession for the removal of which is held by a party residing near François, near which point the deposit is situated. A contract can be entered into with said party to remove the sand at a low figure per ton. Two lots of this sand, and also two lots from Guadeloupe, were analyzed in the United States sometime ago and furnished the following result: Lot 1, Martinique—oxide of iron, 69 per cent; phosphorous, one-tenth of 1 per cent; titanium, one-tenth of 1 per cent. Lot 2, Martinique—oxide of iron, 70.76 per cent; phosphorous, one-thirtieth of 1 per cent; titanium, 2.1 per cent.

At Guadeloupe, there is a heavy deposit, two lots of which, upon analysis, showed the following: Lot 1—oxide of iron, 69 per cent; phosphorous, one-tenth of 1 per cent; titanium, only a trace. Lot 2—oxide of iron, 62 per cent; phosphorous, one-twentieth of 1 per cent; titanium, 1.25 per cent.

I am informed that the sand at Guadeloupe can also be purchased at a small figure per ton. The deposits are upon the seashore, and can be removed in lighters to the vessels. Labor is plentiful and cheap.

Exports Declared for the United States.—The quarterly reports of consular officers of values of exports declared for the United States, which have heretofore appeared in the monthly numbers of CONSULAR REPORTS, will hereafter be printed in separate form for the greater convenience of those who are specially interested in these figures and in order to relieve the monthly publication of a pressure from a class of matter of less general importance than its ordinary contents and to enable the Department to present these tables in a more complete and more comprehensive form. The reports for the quarter ending December 31, 1895, were printed as a supplement to the April number of CONSULAR REPORTS, and hereafter, the returns will be issued in similar form at the end of every three months as soon as practicable after they shall have been received.

Exports from Cuba to the United States.—Consul-General Williams reports to the Department from Habana, April 24, 1896: I inclose a comparative statement showing the exports of Cuba to the United States during the first quarter of the years 1895 and 1896, from which it will be observed that there has been a decrease during the said period, this year, of $4,802,749.57 (United States gold).

I have to observe that the increase of exports from Habana this year is due to the large stock of sugars kept back from last year's crop by the local sugar syndicate, or "trust," in expectation of higher prices, which object has been realized.

Value of declared exports from Cuba to the United States during the quarters ending March 31, 1895 and 1896.

Consular districts.	1895.	1896.
Baracoa	$47,113.72	$8,390.70
Cardenas	1,490,861.26	30,636.95
Cienfuegos	2,634,823.71	594,868.02
Trinidad de Cuba	177,559.14	
Zaza	62,895.68	36,611.28
Habana	4,514,329.92	6,845,009.70
Matanzas	1,996,346.11	451,375.15
Nuevitas	275,550.87	216,274.43
Gibara	73,919.72	216,269.37
Sagua la Grande	1,200,564.47	3,498.90
Caibarien (Remedios)	739,647.98	349,108.74
Santiago de Cuba	525,623.45	213,265.64
Guantanamo	765,147.83	642,741.19
Manzanillo	610,256.50	740,678.60
Santa Cruz	81,271.55	44,433.67
Total	15,195,911.91	10,393,162.34
Decrease		4,802,749.57

Exports of Sugar from Cuba.—In a dispatch dated Habana, April 9, 1896, Consul-General Williams transmits a statement prepared by Mr. Joaquin Guma of the exportation of sugar shipped during the first quarter of the current year from Cuba, showing the total amount exported to the 31st of March to be 103,453 tons, which have been marketed as follows: In the United States, 96.7 per cent; in Spain, 3.3 per cent.

Roentgen Rays and Infernal Machines.—Consul Chancellor writes from Havre, April 18, 1896: "I inclose herewith a statement that is going the rounds of the newspapers, which may be of some interest and possible utility to the public of our own country." The statement is as follows:

A new and unexpected application of the Roentgen rays is found in their use for ascertaining the contents of suspected infernal machines. Professor Bronardel, of the Paris Municipal Laboratory, assisted by Messrs. Girard and Bordas, has given an account of their researches in this direction at a recent sitting of the Academy of Sciences, and if their statements on the subject are to be accepted without reserve, it would appear that many of the extraordinary precautions hitherto required in dealing with bombs may now be dispensed with and the contents of an ordinary infernal machine decided without risk. The explosive machines experimented with were exactly similar to those which were forwarded sometime since to two prominent deputies of the French Chamber. The mechanism of these was so adjusted that immediately the boxes were opened the explosion occurred. One of these was inclosed in a zinc case, the other in a wooden box. In the first case, the experiment was only moderately successful, the impression on the photographic plate showing only an indistinguishable black mass. In the second, however, the contents of the bomb were clearly manifested, nails, screws, a revolver cartridge, and even the grains of powder showing plainly.

Fruit Shipments from Palermo.—Consul Seymour reports from Palermo, Italy, April 13, 1896: During the four months ending March 31, 1896, 629,405 boxes of lemons and 212,131 boxes of oranges were exported from Palermo to the United States. During the same period of the preceding season, 369,612 boxes of lemons and 281,314 boxes of oranges were exported. Owing to the enormous quantity of lemons that has been shipped, the prices have been very low and have caused the season thus far to be a disastrous one for many shippers. The crop is a large one, though choice fruit is rather scarce. Prices here range from $1.25 to $2.25 per 1,080 lemons. Oranges, owing to the limited exportation, have brought fair prices; the small quantity that remains is selling at the rate of $7 per 1,080.

Haitian-American Trade.—Under date of April 15, 1896, Consul-General Smythe, of Port-au-Prince, calls attention to the fact that the imposition of a duty on Haitian coffee—the chief product of the Republic and its chief export to the United States—had the effect of driving it to Europe to find a market, with the result that, in return, European products were purchased on Haitian account, thus depriving United States exporters and manufacturers of trade which would otherwise be theirs. As a result of this prohibitive tax, Haitian coffee, according to United States Treasury returns, was exported to the United States to the extent of only 899,438 pounds and 247,605 pounds in 1893 and 1894, respectively, against 14,943,913 pounds in 1892 and 12,576,000 pounds in 1895, when relieved of the tax. "Of all these countries (West Indian)," says Consul-General Smythe, "Haiti is most important to us, in a trade sense, as she buys nearly everything which she requires of foreign products from the United States. * * * In four lines alone, the direct trade is large, viz, cotton goods, lumber, salt pork, and flour."

Foreign Trade of Japan.—In a dispatch dated Tokyo, April 9, 1896, Minister Dun says: I have the honor to transmit two copies of the Annual Return of Foreign Trade of the Empire of Japan for the year 1895.* Upon comparison with the publication for the year 1894, you will observe a marked increase in the foreign trade of Japan.

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* Filed in the Department of State.

Year.	Exports.		Imports.	
	*Yen.**		*Yen* *	
1895	133,516,985.88	$67,292,560.88	129,260,578.28	$65,147,331.45
1894	111,297,689.53	57,040,065.88	117,481,955.46	60,209,502.17
Increase	22,219,296.35	10,252,495.00	11,778,622.82	4,937,829.28
For the United States.				
1895	54,028,950.00	27,230,590.80	9,276,360.35	4,754,134.68
1894	43,323,557.00	22,203,322.96	10,982,558.44	5,535,209.30
Increase	10,705,393.00	5,027,267.84		
Decrease			1,706,198.09	781,074.62

* The average value of the yen in 1895 was 50.4 cents, and in 1894, 51.25 cents.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of April to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Newton B. Ashby, Dublin	Mar. 17, 1896	Agricultural statistics	Department of Agriculture.
Julius Muth, Magdeburg	Mar. 19, 1896	Patents	Patent Office.
E. Schneegans, Saigon	Feb. 22, 1896	Rice	Department of Agriculture.
Do	Mar. 14, 1896	do	Do.
D. W. Maratta, Melbourne	Mar. 13, 1896	Production of gold and silver in Australia	Director of the Mint.
Otto H. Boyesen, Gothenberg	Apr. 9, 1896	Method of utilizing skimmed milk.	Department of Agriculture.
Edward Downes, Amsterdam	Apr. 15, 1896	Emigration	Bureau of Immigration.
C. M. Caughy, Messina	Jan. 9, 1896	Fruit trade of Sicily with the United States.	Department of Agriculture.
Do	Feb. 29, 1896	Lemons and lemon orchards in Messina.	Do.
Alexander McDonald, Teheran	Sept. 30, 1895	The poppy and opium in Persia.	Do.
E. F. Bishop, Chatham	Jan. 30, 1896	Bean raising in Ontario	Do.
T. M. Stephan, Annaberg	Oct. 16, 1895	Plum culture in Bosnia	Do.
Perry Bartholow, Mayence	Dec. 28, 1895	Potatoes as food for cattle and sheep.	Do.

Dangerous Antidiphtheritic Serum.—A dispatch from Ambassador Uhl, dated Berlin, April 14, 1896, says: I have the honor to inform you that a few days ago the death of a healthy child occurred in this city almost immediately after the performance of the operation of inoculation (as a precautionary measure against diphtheria) with Behring's antitoxine; that, in consequence, the sale of "Diptheric Heilserum," with the control No. 40, from the Hoechst Farbwerke,* has been officially forbidden, on the ground that the serum bearing this number may have deteriorated during the nine months which have elapsed since its preparation; that the remainder of the antitoxine, which was used in the case mentioned above, and bore the No. 40, has been given to the official analyst for investigation; and that I cabled you this morning as follows:

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* See CONSULAR REPORTS No. 173 (February, 1895), p. 258, and No. 176 (May, 1895), p. 181.

> Sale of Hoechst Farbwerke Behring's serum, control No. 40, officially forbidden. Cause, supposed deterioration.

In conveying this information to you, I determined to use the wire, inasmuch as in two instances in the autumn of 1894 small quantities of serum had been sent by this embassy, under instructions from the Department of State, for hospital and other professional uses in the United States. I have also been informed that an agency was some time since established in the United States for the sale of serum manufactured in Germany. I am not sure whether or not this particular No. 40 has been placed on the market there; but, in view of possible serious results following its use, I deemed it prudent that the action of the German authorities touching the article in question should be promptly communicated.

FOREIGN REPORTS AND PUBLICATIONS.

Railway Enterprises in China.—We chronicled in a former communication the imperial edict sanctioning the construction of the Tientsin-Lukouch'iao Railway, says the North China Herald, of February 12, 1896. Memorials, adds the Herald, have ever since kept pouring in against its construction. The Peiho boatmen are strongly in evidence, their memorials, it is said, having received over ten thousand signatures. The towns on the Peiho which are to be injured in their river traffic without any compensation from the railway are also alarmed. The people who are to receive no benefit from the railway, as they think, and their numbers are legion, are strongly opposed to those who are to be immediately benefited. It is reported that an imperial edict has already been issued disallowing the construction of the line, but of this, there is so far no real indication. The memorials are of different kinds. Those of the censors blame Judge Hu for purloining at least 400,000 taels out of the 2,400,000 taels which the line is calculated to cost; the building of the line so far south, instead of making it run along the river, and thus benefiting a poor tract of country which has no claim whatever to have a railway, to the loss of such towns as Tungchow, which will suffer severely by the transfer of the traffic to the railway. The course proposed for the line passes through poor land and past small hamlets. The country is not densely covered with graves—an important consideration with the Chinese—as both banks of the Peiho are. The line would form a junction with the proposed Hankow line at Lukou bridge, where land which was utterly valueless has already risen in the market tenfold in prospect of the terminus being situated here. Rice, as imperial tribute, if it continues to come, will doubtless still come by the river to Tungchow; the boats, three or four thousand in number, engaged in transporting rice, will doubtless still be engaged in this traffic. The granaries are situated in the east of Peking, adjoining the canal and stone road which lead to Tungchow. Besides the opposition of the Chinese boatmen and others, there are also, we hear, the opposition and intrigues of the French, who, by virtue of the Fournier treaty, claim to have the sole right to construct railways in China. This, of course, is absolutely false; nevertheless, in China's present state of collapse and the good services rendered China in the Liaotung retrocession, it does well enough with which to bully China. That clause in the above treaty, which has given so much umbrage to China and other trading nations, and a handle to the French for reserving to themselves the exclusive construction of railways in China, when properly interpreted, as pointed out in our late leader on railways (December 21), only promised France the preference if her materials were of the same quality and cost as those of other countries. France attempted to get exclusive rights of railway construction and the working of the mines in South China in her late Sino-Annamite convention, but failed; the "must" address themselves first to French engineers and manufacturers being changed into "may," although the original French text, to judge from the translation in the London and China Express, seems to have been sent to Paris. This action of France, if true, will retard, if not stop, the construction of railways in China. China must have a free hand to buy in the cheapest market without pressure; if not, she must again put a stop to railway building. China can not fight, and rather than put the construction of her railways into hands that are likely in the future to be unfriendly, she must stop all railway work. This is not an enviable position to occupy. It is understood some of the railway material has already been ordered from the United States and Germany, and if the railway construction is not to proceed these countries may have something to say. By later information, which we give, however, with all reserve, it is stated that the Russians have taken up the building of the railway in as far as the ironwork is concerned, the earthwork and ballasting being left to Mr. Kinder. This, if true, will be a strange comment on the Liaotung and loan business. Preparations are proceeding for the construction of the line.

In a dispatch from Peking dated March 3, 1896, Minister Denby says: "I have the honor to inclose a clipping from the North China News, of the 11th ultimo, which is a translation of the order of the Viceroy Chang Chih-tung to construct a railway from Shanghai to Swatow." The extract is as follows:

THE KIANGSU RAILWAY.

The following telegram from the Viceroy Chang Chih-tung was received on Sunday by the local mandarins, addressed to Dr. Yung Wing (who is also a first-class expectant taotai of this province); Huang Taotai, intendant of this port; Huang Chün-hsien, late Chinese consul-general at Singapore; and Yeh Ta-Chuang, acting marine subprefect of Shanghai: "Railways have been repeatedly approved of by imperial edict, and I can, moreover, assure you that His Excellency Liu K'un-yi, upon being granted his farewell audience the other day prior to leaving Peking for Nanking, was personally instructed by His Majesty the Emperor to make no changes in the arrangements made by his predecessor (meaning thereby the Viceroy Chang himself). His Imperial Majesty has also issued an edict to the same effect. It is decided now to make a beginning with a railway between Shanghai and Soochow, and the estimate for the road of 200 li (65 miles) amounts to about 2,000,000 taels. In view of this, I intend to memorialize the Throne on the matter. There is now lying in the bank a reserve fund of 2,500,000 taels and it was at first my intention to use this money on behalf of the Government for the building of the proposed line; but being, moreover, anxious that our mercantile classes should also benefit and take an interest in the venture, I authorize you to canvass at Shanghai for shares from among the people to an extent not exceeding 1,000,000 taels. Should it be found that only shares amounting to, say, several hundred thousand taels be forthcoming, there will be no objections made; but the funds, official and mercantile, will be deposited in the Hongkong and Shanghai Bank and the German Bank. You are also authorized to invite a certain number of directors from the mercantile classes to act on the railway board, so that they may be able to learn for themselves the capital of the company and the extent of the expenditure on construction, etc., of the proposed line. The accounts of the company shall be kept by a foreign officer engaged for the purpose, and he shall be the financial manager, by whom the annual balance sheets of the line shall alone be made up. The control and construction shall be held by the Government, but in the event of anything happening that might be distasteful to the mercantile shareholders, their representatives on the board shall have the right of laying complaints before the whole board for amendment or otherwise, but the said shareholders shall not be permitted to act on their own responsibility. I hereby appoint Wu Cheng-lu, provincial judge of Kiangsu, to be chief director, and the Taotai Huang Chün-hsien and Yung Wing to be assistant directors. Wu Cheng-lu will have control over territorial affairs, the police and good order of the whole line, and foreign affairs; Huang Chün-hsien shall have control over the construction of the line, and Yung Wing the direction of canvassing for shares. Only Chinese shareholders are to be admitted, nor shall it be permissible to receive sub rosa any foreign capital. Lu Fêng-hsiang, ex-libationer of the Imperial Academy, Peking, shall be authorized to use his influence with his townsmen at Soochow and censors among them for shares also. I will in a few days memorialize the Throne on this subject. In the meanwhile, I hereby authorize you all to publish this telegram for the information of all concerned."

Chinese Revenue from Salt.—The North China Herald, under date of February 28, 1896, says: To assist the repayment of the Russian loan, the Chinese Imperial Government, at the instance of the Viceroy Chang Chih-tung, has sanctioned the production of extra salt throughout the country, the amount allowed North Kiangsu being some 150,000 extra bags of salt at 10,000 taels for every 5,000 bags, which will increase the annual salt revenue of the circuit 300,000 taels per annum. From this source alone, it has been estimated by the board of revenue that the Government will be able to pay off annually nearly 5,000,000 taels of the foreign loan.

French Commerce with the Transvaal.*—It may be remembered what a sensation was created in the month of May last by the publication of the annual report of Mr. Aubert, the French consul at Pretoria. In this true and conscientious study of the commercial, industrial, and financial situation in the South African Republic, our representative, after having given the wisest warnings and announced the peril with which an unbridled speculation threatened us, did not hesitate to state that "the Transvaal offers a vast field of enterprise to intelligent, energetic, and persevering capitalists." He appealed to our manufacturers to come and judge for themselves of the resources and markets that this new country offered to the national activity. This appeal was heard, and the chamber of commerce at Paris organized a mission for the commercial study of the Transvaal. Mr. Hugot, whose long experience in business and numerous voyages abroad, notably in America and Australia, especially designated him for such an inquiry, was intrusted with this mission. On returning to Paris, the delegate of the chamber of commerce published a report which recapitulates in a sober, precise form the results of his mission.

Although the Transvaal was the principal object of his voyage, Mr. Hugot made a general study of South Africa. Thus, he has successively examined Cape Colony, the Orange Free State, the South African Republic, the colony of Natal, and Delagoa Bay; afterwards, on his return voyage, traveling over the islands of Mauritius and Réunion and the coast of Madagascar.

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*Originally printed in Le Temps, Paris, and translated from the Revue du Commerce Extérieur (Review of Foreign Commerce) of March 21, 1896.

The conclusions of Mr. Hugot, which are very favorable to the Transvaal, are much less so in regard to the Cape and Natal. In Cape Colony, of which the population of 1,000,000 inhabitants comprises 337,000 whites, all the commerce—imports and exports—is in the hands of the English. Besides wines and some articles of perfumery, we send nothing to the Cape. Some Frenchmen, seconded by our chambers of commerce, have settled there, but their efforts have only ended in the proof, unhappily so general, that our French manufactures can not contend, in the matter of price, against similar foreign products.

It is the same in the colony of Natal. Here, the population amounts to 555,000 inhabitants, of whom 42,000 are whites. The European articles necessary for consumption are furnished almost exclusively by England on conditions which defy our competition, and which, according to Mr. Hugot, would condemn to almost certain failure every attempt to establish French countinghouses in that colony.

In the Transvaal, happily, the conditions are entirely different. In this country of yesterday's birth, which has no export but gold, the importations in proportion to inhabitants per capita are superior to those of every other nation on the globe. The population is about 1,000,000, of whom 175,000 are whites, among whom the English element represents but half. All kinds of merchandise are represented in the importations. Because of their different origin, the population is less wedded to European customs and habits than that of the Cape and Natal. It is, moreover, richer. Easy and rapid gains have habituated it to spend freely, and it is one of the markets best disposed to appreciate and pay for our products. Our countrymen have not been unaware of the business movement which has drawn to the Transvaal the attention of the merchants of all the nations of Europe.

Mr. Hugot protests against the unmerited reproach directed against French commerce of not seeking new outlets. Whatever, he says, may be the truth of the legend which represents us to be the most sedentary of people, the most averse to efforts tempting us afar, truth must be respected, and the facts which we have witnessed in the course of our search give formal contradiction to the common statements too often retailed by those even who quit their firesides the least. It is neither just nor true to pretend that we let others take the place which we should occupy. So, with the saying that represents our consuls as neglecting the commercial part of their functions. It is our duty to testify that those agents give the greatest care and the greatest activity to the development of our commercial interests.

For some years our capitalists, manufacturers, and merchants have, in no sense, shrunk from the efforts and outlay necessary, and we have met a number of our fellow citizens at Johannesberg who had come there to enter into business relations. It is not for us to cite the names of the firms to whose initiative we allude, and we know that others are going there this year to establish countinghouses. We have had the pleasure of being eyewitnesses to the success of our countrymen who arrived in the country several years ago. Large French factories were sending their representatives to reside there by the steamer which carried us. It is to be hoped that those enterprises will be successful. They will certainly find there the formidable competition of English houses established at Johannesberg for several years past. To those who will be surprised that we were not the first, it may be permitted to remark that the English were more favorably placed for taking up a position from the earliest days of commercial life in the Transvaal. All these English houses are in reality branches of those of Cape Town, Port Elizabeth, and East London, which, from day to day, have been acquainted with the progress of the Transvaal Republic, and have been induced, without great effort or great risk, to establish themselves at Johannesberg.

We have not observed that German competition has got much the start of us there.

As to the immense quantity of materials furnished to the miners, it was indicated that the supply was originally made by the English and American manufactories, the greater part of the engineers employed at the mines belonging to those nationalities, and the machinery having hitherto been exclusively of English or American production. We have been assured that this production can be surpassed without any sensible difference in price by our French manufactories.

The most unfavorable condition for the establishment of new arrivals is the scarcity of dwellings and the high price of ground in the commercial portion of the town. * * * Everything, or nearly everything, has to be imported, from the timber framework to the metallic roof; from the window panes to the most ordinary furniture. * * *

We might be tempted to avoid the high costs of installation and to hope to form profitable commercial relations by sending agents with samples. Mr. Hugot does not hesitate to declare that efforts of this sort would be ineffectual. The only way to compel success, he says, is to settle at Johannesberg, to get into direct communication with consumers and to ascertain what articles are certain of sale. We must count less upon the present traffic than upon that of the future. There is no question there of a regular consumption, for it grows incessantly and will continue to do so from year to year; it is necessary to grow with it. Johannesberg sees its population increase 400 souls per week. A new city, it has to improvise each week what is required for the housing and provisioning of its guests. We do not doubt that those of our countrymen who go there to open countinghouses with sufficient capital and the countenance of firms of the metropolis will meet with success.

The customs duties are generally moderate—7½ per cent ad valorem upon the amount of invoices and 20 per cent additional (excepting wines, liqueurs, and spirits). Merchandise is subject to numerous costs—freight, insurance, transit, and transportation by railway. These costs are quite high—by way of Cape Colony ports, 5 per cent; by way of Natal, 3 per cent; by way of Mozambique, 3 per cent. The distances are, by railway: From Cape Town to Johannesberg, 1,013 miles; Port Elizabeth to Johannesberg, 713 miles East London to Johannesberg, 665 miles; Durban to Johannesberg, 433 miles; Dalagoa Bay to Johannesberg, 373 miles (of which 113 miles only are on Portuguese territory).

The route from Delagoa Bay is by far the shortest. The eastern frontier of the Transvaal is 180 kilometers only from the sea. Moreover, the port of Delagoa, the best on all the coast, has the promise of a greater future, and with it the city of Lorenzo Marquez, which will develop rapidly as soon as supplied with port facilities, in which it is entirely wanting at present. French commerce is there represented by the firms Monte & Boullé, Régis, of Marseilles, and by an Alsatian, retaining his French nationality, Mr. Wack. * * *

A regular vice-consul was installed last year, but until the creation of that post Mr. Wack fulfilled the duties of consular agent.

British Trade Returns.—The accounts of trade and navigation of the United Kingdom for the month of March and for the three months ending March 31, 1895 and 1896, make the following showing of imports and exports:

Imports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of March.				
Animals, living, for food	$3,021,645	$4,604,487	$1,582,842	
Articles of food and drink:				
Duty free	52,023,374	59,035,305	7,011,931	
Dutiable	11,924,702	10,649,844		$1,274,858
Tobacco	1,117,949	1,708,477	590,528	
Metals	6,870,159	7,692,932	822,773	
Chemicals, dyes, and tannics	4,308,974	4,642,008	333,034	
Oils	3,310,325	2,830,032		480,393
Raw materials for textiles	39,170,147	34,519,905		4,650,242
Raw materials for other industries	15,236,599	16,205,216	968,617	
Manufactured articles	31,667,947	38,286,676	6,618,729	
Miscellaneous goods	6,031,431	5,969,239		62,192
Parcel post	398,307	441,432	43,125	
Total	175,081,559	186,585,553	11,503,994	
Three months ending March 31.				
Animals, living, for food	7,702,646	12,474,531	4,771,885	
Articles of food and drink:				
Duty free	151,943,428	175,447,519	23,504,091	
Dutiable	29,340,404	28,371,486		968,918
Tobacco	3,118,825	4,661,159	1,542,334	
Metals	21,015,387	24,000,358	2,984,971	
Chemicals, drugs, and tannics	10,249,933	13,078,285	2,828,352	
Oils	8,570,291	10,616,838	2,046,547	
Raw materials for textiles	118,859,218	113,928,047		4,931,171
Raw materials for other industries	37,496,481	45,092,473	7,595,992	
Manufactured articles	85,487,410	99,695,537	14,208,127	
Miscellaneous goods	15,696,613	17,569,929	1,873,316	
Parcel post	1,342,521	1,492,973	150,452	
Total	490,823,157	546,429,135	55,605,978	

Exports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of March.				
Animals, living	$205,895	$267,231	$61,336	....
Articles of food and drink	3,965,926	3,905,851	....	$60,075
Raw materials	6,904,659	6,400,566	....	504,093
Manufactured and partly manufactured articles:				
Textiles and yarns	41,388,347	45,465,327	4,076,980	....
Metals and metal goods	10,846,976	13,060,363	2,213,387	....
Machinery and millwork	5,458,095	6,525,403	1,067,308	....
Apparel and personal effects	3,783,539	4,563,670	780,131	....
Chemicals, chemical products, and medicinal preparations	3,597,283	4,221,615	624,332	....
All other	13,466,125	14,263,506	797,381	....
Total manufactures	78,540,365	88,099,884	9,559,519	....
Parcel post	516,219	701,959	185,740	....
Total British exports	90,133,064	99,375,491	9,242,427	....
Foreign products	23,583,551	22,497,004	....	1,086,547
Grand total exports	113,716,615	121,872,495	8,155,880	....
Three months ending March 31.				
Animals, living	568,458	780,487	212,029	....
Articles of food and drink	10,436,773	11,725,644	1,288,871	....
Raw materials	18,578,344	19,834,506	1,256,162	....
Manufactured and partly manufactured articles:				
Textiles and yarns	125,454,849	140,580,884	15,126,035	....
Metals and metal goods	29,559,526	38,114,653	8,555,127	....
Machinery and millwork	15,690,966	18,924,107	3,233,141	....
Apparel and personal effects	11,046,954	13,861,913	2,814,959	....
Chemicals, chemical products, and medicinal preparations	9,806,995	11,419,626	1,612,631	....
All other	34,032,360	40,895,397	6,863,037	....
Total manufactures	225,591,650	263,796,580	38,204,930	....
Parcel post	1,338,962	1,822,770	483,808	....
Total British exports	256,514,187	297,959,987	41,445,800	....
Foreign products	63,947,639	73,414,631	9,466,992	....
Grand total exports	320,461,826	371,374,618	50,912,792	....

Résumé for the three months.

Description.	1895.	1896.	Increase.	Decrease.
Imports	$490,823,157	$546,429,135	$55,605,978	....
Exports	320,461,826	371,374,618	50,912,792	....
Excess of imports	170,361,331	175,054,517	....	....

Jubilee Exhibition at Vienna.—A dispatch to the London Times from Vienna, dated March 23, 1896 says:

In the course of this week, a meeting of the Lower Austrian Industrial Society will be held to consider the proposed plan of organizing an exhibition in Vienna during the year

1898. This exhibition, which is to be held in connection with the fiftieth anniversary of the Emperor Francis Joseph's accession to the throne, will have both an international and a specially domestic character. Its primary object will be to demonstrate the progress and development of technical, artistic, and manufacturing industry during the past half century. Every effort will be made to illustrate the various processes of manufacture, beginning with the raw product and ending with the finished article. Meanwhile, the Lower Austrian Industrial Society has expressed its willingness to finance the enterprise on a sound basis, and at the meeting which is to be held in a few days, various important arrangements will be made with regard to the pecuniary part of the scheme.

It is proposed to hold the exhibition in the old exhibition building in the Prater and in the spacious grounds which surround it. The various sections will comprise exhibits of the practical manufacture of food and clothing, together with groups showing the progress and development of the methods of communication, of literature, art, education, hygiene, architecture, engineering, and other branches of knowledge, science, and industry. The exhibitors will include those manufacturers, tradesmen, and merchants who are proprietors of establishments or who have authorized business representatives in Lower Austria; further, those who are members of one or more of the provincial industrial corporations which have had delegates appointed to the central commission of the exhibition; and, finally, those state and public institutions which more or less influence the progress and development of knowledge and industry. These regulations apply solely to the domestic department of the exhibition, while the special section, entirely devoted to international exhibits, will be subject to different statutes. The exhibition is to remain open from the beginning of May, 1898, until the middle of October in the same year. The reputation enjoyed by the Lower Austrian Industrial Society, which is promoting the scheme, would seem to warrant its success.

California Oranges in London.—Mr. John Newmarch, secretary of the Riverside Trust Company, of London, writing to the Department of State under date of April 16, 1896, to acknowledge the receipt of a copy of Special Consular Reports (Fruit Culture in Foreign Countries) and of copies of monthly CONSULAR REPORTS containing reports on lemons and oranges, says: "I think we shall find all these very useful and instructive. For the last four years we have made trial shipments of choice lots of navel oranges to England (from California) and the results have always been highly satisfactory. This year, we sold by auction at Covent Garden Market, and the lowest price was 17s. 6d. per box, which means a return of nearly $3 per box free on board Riverside, Cal."

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CONSULAR REPORTS.

JUNE, 1896.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1896.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (*1890*).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (*1891*).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (*1891*).—Streets and Highways in Foreign Countries.

Vol. 4 (*1892*).—Port Regulations in Foreign Countries.

Vol. 5 (*1892*).—Canals and Irrigation in Foreign Countries.

Vol. 6 (*1892*).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (*1892*).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (*1892*).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (*1892 and 1893*).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (*1894*).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (*1894*).—American Lumber in Foreign Markets.

Vol. 12 (*1895*).—Highways of Commerce.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

HARVARD COLLEGE LIBRARY,
JUL 2 1896
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CONTENTS.

			Page.
I.—	Note		xv
II.—	German Training for Trade	Wamer	161
III.—	German Fears of American Competition		162
IV.—	American Trade Methods in Germany	Tingle	164
V.—	German vs. American Trade Methods	Monaghan	166
VI.—	Enlargement of Commercial Schools in Saxony		170
VII.—	Government Aids to German Trade	Merritt	171
VIII.—	Improvement in German Trade		173
IX.—	British and German Merchant Marine	Stephan	174
X.—	Chambers of Commerce in Prussia	Merritt	175
XI.—	Revision of German Laws	Monaghan	179
XII.—	Farm Indebtedness in Bavaria	Moore	180
XIII.—	German Criticisms of American Meats	Wamer	182
XIV.—	American Cotton Yarns for Germany	Mason	184
XV.—	The German Carpet Trade	Stephan	189
XVI.—	Wall Paper in Germany		190
XVII.—	Lead-Pencil Manufacture in Germany		191
XVIII.—	Beet-Sugar Production in Germany	Opp	192
XIX.—	German Beet-Sugar Returns	Muth Merritt	195 196
XX.—	International Conference on Sugar Bounties	Merritt	198
XXI.—	Tobacco Planting in Germany	Stephan	199
XXII.—	Production of Tobacco in Germany	Moore	200
XXIII.—	Baths for German Miners	Merritt	201
XXIV.—	American Iron Ore in Germany		203
XXV.—	Production of Iron Ore in Germany	Stephan	203
XXVI.—	German vs. British Iron and Steel Manufacture	Mason	205
XXVII.—	Chemical Industry in Germany	Merritt	209
XXVIII.—	The Wire-Nail Industry of Germany		210
XXIX.—	How Mineral Wool is Made		210
XXX.—	Industrial Use of Liquid Air		211
XXXI.—	The India-Rubber Industry		213
XXXII.—	Imperial Aid to Industrial Schools	Monaghan	216
XXXIII.—	English Industries and German Competition		217
XXXIV.—	Address Book for German Export Houses		219
XXXV.—	Guide to Saxon Industries		220
XXXVI.—	German Advertising in Japan		221
XXXVII.—	The Glass Industry of Germany		222
XXXVIII.—	Apples in Germany		224
XXXIX—	German Exports to the United States	de Kay	225

Page.
XL.—American Horses in Germany .... *Keenan* 228
XLI.—German Railways 233
XLII.—The Imperial Bank of Germany .... *Monaghan* 236
XLIII.—Savings Banks of Saxony 238
XLIV.—Forests of Saxony 238
XLV.—The Rhine Vintage of 1895 .... *Bartholow* 239
XLVI.—Prices in Germany .... *Dreher* 241
XLVII.—Auer-Welsbach Patents and Monazite in Germany ..... *Mason* 242
XLVIII.—Census of Germany .... *Moore* 245
XLIX.—Lack of Information in Germany about the United States—Proposed American Journal .... *de Kay* 246
L.—Increased Austro-Hungarian Exports to United States ..... *Judd* 248
LI—Suggestions for Developing Trade with Austria-Hungary .... *Hammond* 249
LII—Commerce and Industries of Austria-Hungary ... 251
LIII—Austrian Scythe Industry .... *Stephan* 258
LIV—Currency of Austria-Hungary .... *Judd* 259
LV—Servia: Decline of the Wine Industry—Wheat Crop of 1895 .... *Hammond* 262
LVI—Russia: Effects of the Commercial Treaty with Germany .... *Moore* 262
LVII—Commercial Treaty with Japan .... *Karel* 264
LVIII—Iron Industry of Russia .... *Karel* 265, *Stephan* 268
LIX—Progress of the Great Siberian Railway .... *Peirce* 269, *Karel* 270
LX.—A New Railway for Siberia 272
LXI.—Cereal Crops of Russia in 1895 272
LXII.—Russian Grain and Flour Trade 274
LXIII.—Cultivation of Cotton in Russia 275
LXIV.—Preparation of Caviar in Russia 278
LXV.—The Russian Flax Trade .... *Karel* 279
LXVI.—Production of Raw Silk in Russia 281
LXVII.—Manufacture of Wine from Raisins 282
LXVIII.—The Russian Hop Crop of 1895 283
LXIX.—Russian Beet Sugar 284
LXX.—Cattle Plague in European Russia 286
LXXI.—Australasia: Decrease of Wool Production .... *Maratta* 287
LXXII.—New South Wales Wool for 1895 .... *Bell* 292
LXXIII.—Fiscal Changes in New South Wales 293
LXXIV.—Industries and Trade of Newcastle .... *Keightley* 303
LXXV.—Receipts of Gold at the Melbourne Mint 309
LXXVI.—Treatment of Gold Ores in Australia .... *Maratta* 309
LXXVII.—Electric Lighting of Railway Trains 312

Page.
LXXVIII.—LABOR IN BELGIUM..Ewing 314
LXXIX.—TRADE AND INDUSTRIAL CONDITIONS IN CHINA...............Denby 317
LXXX.—AMERICAN BICYCLES IN GERMANY...............................Mason 325
LXXXI.—CYCLE-TUBE TRADE OF BIRMINGHAM.............................Parker 329
LXXXII.—A NEW SWISS BICYCLE..Ridgely 332
LXXXIII.—BICYCLES IN GREECE...Horton 333
LXXXIV.—BICYCLES IN SPAIN...Burke 334
LXXXV.—TRADE OPPORTUNITIES IN EASTERN ASIA.......................Barrett 336
LXXXVI.—REGISTRATION IN THE HAWAIIAN ISLANDS.....................} Mills 337
LXXXVII.—EXPORTS FROM THE HAWAIIAN ISLANDS.......................} Mills 343
LXXXVIII.—DAMAGE TO CROPS IN SPAIN.......................................Burke 343
LXXXIX.—END OF THE DROUGHT IN SPAIN—DEMAND FOR WHEAT......Fay 344
XC.—SUMATRA TOBACCO FOR THE UNITED STATES.................Downes 345
XCI.—TRADE AND FINANCES OF HAITI. ....Smythe 346
XCII.—NOTES (The British Consular Service and Foreign Trade—Horticultural Exhibition of Hamburg in 1897—Pharmaceutical Exhibition at Prague—Antidiphtheritic Serum as a Preventive—An Inscription on the Parthenon—Manganese Ore in Nova Scotia—Removal of Interstate Taxes in Mexico—Legislation in Honduras—Chilean Competition with California Flour—Removal of Duty on Ether of Sulphur—New Tariff on Tobacco in Belgium—Pig Iron Made Free in Sweden—Publications Beneficial to American Trade—Exports of Sulphur from Sicily—Falling Off in Fruit Exports from Sicily—Method of Pruning Fruit Trees in Italy—Railroad Concession to Americans in Korea—Windmills in Nicaragua—British Imports of Eggs—Interest in United States Consular Reports in Saxony—Egyptian Cotton Forecast for 1896–97—Egyptian Sugar for the United States—Exemption from Duties on Corn in Mexico—Consular Reports Transmitted to Other Departments).. 348
XCIII.—FOREIGN REPORTS AND PUBLICATIONS (Agricultural Bounties in British Colonies—British Trade Returns—East Indian Trade in 1894–95—Australian Colony in Paraguay—Growth of Manufactures in Japan).. 361

Full directions for binding the Consular Reports are given in No. 131, page 663.

REPORTS BY COUNTRIES.

ASIA (EASTERN): Page.
- Trade opportunities in 336

AUSTRALASIA:
- Decrease of wool production in 287
- Electric lighting of railway trains in South Australia 312
- Fiscal changes in New South Wales 293
- Industries and trade of Newcastle 303
- New South Wales wool for 1895 292
- Receipts of gold at the Melbourne mint 309
- Treatment of gold ores in 309

AUSTRIA-HUNGARY:
- Commerce and industries of 251
- Currency of 259
- Increased exports to the United States from 248
- Pharmaceutical exhibition at Prague 349
- Scythe industry of 258
- Suggestions for developing trade with 249
- Trade with the United States; general commerce and manufactures 248

BELGIUM:
- Labor in 314
- New tariff on tobacco in 356

CANADA:
- Manganese ore in Nova Scotia 353

CHINA:
- Trade and industrial conditions in 317

COLOMBIA:
- Chilean competition with California flour in 355

EGYPT:
- Cotton forecast for 1896–97 359
- Sugar from, for the United States 359

GERMANY:
- Address book for German export houses 219
- American bicycles in 325
- American cotton yarns for 184
- American horses in 228
- American iron ore in 203
- American trade methods in 164
- Antidiphtheritic serum as a preventive 351
- Apples in 224
- Auer-Welsbach patents and monazite in 242
- Baths for miners in 201
- Beet-sugar campaign in 196
- Beet-sugar production in 192
- Beet-sugar returns of 195, 196
- Carpet trade of 189
- Census of 245
- Chambers of commerce in Prussia 175
- Chemical industry in 209

GERMANY—Continued. Page.
Criticisms of American meats in 182
Effects of the commercial treaty with Russia 262
English industries and German competition 217
Enlargement of commercial schools in Saxony 170
Exports to the United States 225
Farm indebtedness in Bavaria 180
Fears of American competition 162
Forests of Saxony 238
German advertising in Japan 221
German training for trade 161
German vs. American trade methods 166
German vs. British iron and steel manufacture 205
Glass industry of 222
Government aids to trade of 171
Guide to Saxon industries 220
Horticultural exhibition of Hamburg in 1897 349
How mineral wool is made in 210
Imperial aid to industrial schools in 216
Imperial bank of 236
Improvement in trade of 173
India-rubber industry of 213
Industrial use of liquid air in 211
Interest in United States consular reports in Saxony 359
International conference on sugar bounties 198
Lack of information about the United States in; proposed American journal 246
Lead-pencil manufacture in 191
Merchant marine of 174
Prices in 241
Production of iron ore in 203
Production of tobacco in 200
Proposed American journal in 246
Publications beneficial to American trade in 356
Railways in 233
Recent developments in trade and industries of 161
Revision of laws of 179
Rhine vintage of 1895 239
Savings banks of Saxony 238
Tobacco planting in 199
Wall paper in 190
Wire-nail industry of 210
GREAT BRITAIN:
British consular service and foreign trade 348
British imports of eggs 358
Cycle-tube trade of Birmingham 329
Merchant marine of 174
GREECE:
An inscription on the Parthenon 352
Bicycles in 333
HAITI:
Trade and finances of 346
HAWAIIAN ISLANDS:
Exports from 343
Registration in 337

HONDURAS: Page.

Legislation in ... 354

ITALY:

Exports of sulphur from Sicily ... 357
Falling off in fruit exports from Sicily ... 357
Method of pruning fruit trees in ... 357

JAPAN:

Commercial treaty with Russia ... 264
German advertising in ... 221

KOREA:

Railroad concession to Americans in ... 358

MEXICO:

Exemption from duties on corn in ... 360
Removal of interstate taxes in ... 354

NETHERLANDS:

Removal of duty on ether of sulphur in ... 355

NEW SOUTH WALES:

Fiscal changes in ... 293
Industries and trade of Newcastle ... 303
Wool for 1895 ... 292

NICARAGUA:

Windmills in ... 358

RUSSIA:

A new railway for Siberia ... 272
Beet sugar in ... 284
Cattle plague in ... 286
Cereal crops of, in 1895 ... 272
Commercial treaty with Japan ... 264
Cultivation of cotton in ... 275
Effects of the commercial treaty with Germany ... 262
Flax trade of ... 279
Grain and flour trade of ... 274
Hop crop of ... 283
Iron industry of ... 265
Manufacture of wine from raisins in ... 282
Preparation of caviar in ... 278
Production of raw silk in ... 281
Progress of the Great Siberian Railway ... 269

SERVIA:

Decline of wine industry; wheat crop of 1895 ... 262

SIBERIA:

A new railway for ... 272

SPAIN:

Bicycles in ... 334
Damage to crops in ... 343
Demand for wheat in ... 344
End of the drought in ... 344

SUMATRA:

Tobacco for the United States from ... 345

SWEDEN:

Pig iron made free in ... 356

SWITZERLAND:

A new bicycle in ... 332

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*....	Gold and silver...	Peso..................	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.......	Gold..................	Crown................	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.....................	Gold and silver...	Franc.................	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.........................	Gold..................	Milreis...............	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	..... do................	Dollar................	1.00	
Chile‡........................	Gold and silver....	Peso..................	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba..........................	......do..................	......do..................	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark....................	Gold..................	Crown................	.26,8	Gold—10 and 20 crowns.
Egypt.........................	......do..................	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland......................	......do..................	Mark..................	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France...........	Gold and silver....	Franc.................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany....................	Gold..................	Mark..................	.23,8	Gold—5, 10, and 20 marks.
Great Britain..............	......do..................	Pound sterling.....	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.......................	Gold and silver....	Drachma............	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti..........................	......do..................	Gourde...............	.96,5	Silver—gourde.
Italy...........................	......do..................	Lira....................	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.......................	Gold..................	Dollar................	1.00	
Netherlands§..............	Gold and silver....	Florin.................	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland............	Gold..................	Dollar................	1.01,4	Gold—$2 ($2.02,7).
Portugal.....................	Gold..................	Milreis...............	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.........................	Gold and silver....	Peseta................	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold..................	Crown................	.26,8	Gold—10 and 20 crowns.
Switzerland................	Gold and silver....	Franc.................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.......................	Gold..................	Piaster...............	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela..................	Gold and silver....	Bolivar...............	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	...	...
China	Silver	Haikwan tael	1.61	1.61	...	...	...	...
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	...	...	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	...	...
	Silver		...	...	...	...	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands ‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	...	...
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	...	...	...	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	...	...	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.45,7	$0.46,4
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
China*	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tien-Tsin tael.	....	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador	do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	....	....	....	....
Russia‡	Silver ruble	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela §	Silver bolivar	....	....	....	....	.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1,	April 1.
Bolivia	Silver boliviano	$0.45,5	$0.44,1	$0.48,6	.48,6	$0.49,1	$0.49,3
Central America	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
China*	Shanghai tael	.67.3	.65,2	.71,8	.71,8	.72,5	.72,9
	Haikwan tael	.74,9	.75,6	.80	.80,0	.80,8	.81,2
	Tien-Tsin tael.	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3
	Chefoo tael	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3
Colombia	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
Ecuador	do	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
India	Silver rupee	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4
Japan†	Silver yen	.49,1	.47,6	.52,4	.52,4	.52,9	.53,2
Mexico	Silver dollar	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6
Persia	Silver kran	....	....	.08,9	.09,0	.09	.09,1
Peru	Silver sol	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3
Russia‡	Silver ruble	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5
Tripoli	Silver mahbub	.41,1	3.9,8	.43,8	.43,8	.44,3	.44,5

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1,12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0 621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅜ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82²⁄₇ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

NOTE.

The June number of CONSULAR REPORTS contains a larger number of pages than the usual monthly issue, for the reason that, in the course of the current fiscal year, it became evident that many reports must be withheld from publication to obviate the danger of prematurely exhausting the appropriation for printing. The activity of consular officers in preparing reports for publication has steadily increased in recent years, and the volume of matter at the disposal of the Department has grown proportionately. The appropriation for printing the reports, however, as well as the editorial force engaged in the revision and arrangement of them for publication, remains the same as when the reports were fewer and the work less difficult, and it follows necessarily, that discrimination must be exercised in giving the preference to such reports as seem to be of more immediate interest and value. At the close of the fiscal year, the balance remaining of the husbanded appropriation has been utilized in printing such of the reports still awaiting publication as seemed most important. The others have been filed in the archives of the Department.

This statement will explain the delay in printing many of the reports in the present number, as shown by their dates, and also, to consular officers, the nonappearance of reports which the Department hoped to be able to print, but was compelled to omit altogether.

It should be added that all reports of general interest are given to the newspaper press for such use as it may make of them as soon as possible after receipt by the Department, so that the public obtains immediate benefit from them to that extent.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LI. JUNE, 1896. NO. 189.

GERMANY: RECENT DEVELOPMENTS IN TRADE AND INDUSTRIES.

GERMAN TRAINING FOR TRADE.

In connection with the various reports submitted by me to the Department of State, in which I have repeatedly urged that our merchants doing business in foreign countries should send out capable men to introduce their goods and push their trade, and not rely solely on advertisements and circulars, an extract from the London Times, which I shall quote later on, will be read with interest. I agree with the writer when he says that so few Englishmen study foreign languages thoroughly and that British merchants are, in consequence, often obliged, even against their will, to employ foreigners. The same remark may also, in a measure, be applied to the United States.

In Germany, the greatest possible attention is paid in the Government and municipal schools to a careful study of the French and English languages. Besides the regular schools, there are a number of mercantile schools, specially devoted to the education of young merchants, where the scholars receive a most careful and thorough training, with a view to fit them for mercantile life. Of late, there has been a movement to considerably increase the number of this class of schools, as the Germans are well aware of the competition threatening them from various sides.

Besides receiving an unrivaled education at home, year by year hundreds—or, I should rather say, thousands—of intelligent young Germans, very often the sons of the richest commercial men in the country, leave the Fatherland to take situations in offices, warehouses, factories, mills, etc., in all parts of the world. They very often go as "volunteers," without any pay, for a shorter or longer period. These young men are, as a rule, noted for their industry and sobriety. After remaining a few years in the country of their choice, they bring home with them a good knowledge of the language, business methods, and, very often, important technical secrets.

Not long since, a deputation of Englishmen, interested in the manufacture of velvet, paid a visit to Crefeld—a town which, twenty years ago, had no trade worth speaking of, but which is now the center of the velvet and plush manufacture of Germany—and were greatly surprised at the speeches delivered in excellent English by the prominent business people; but their astonishment was much greater when they visited the splendid technical schools, fitted out almost regardless of expense.

"How can you afford to keep up such schools?" asked one of the Englishmen. "Oh," answered the German, laughing, "you English pay for that." And this was true, for whereas Germany used formerly to import certain manufactures from England, she now sends such goods largely to that country, as well as to the United States. Indeed, the most formidable competitor of England to-day in the world's market is Germany, and the English seem to have become seriously alarmed, owing to the rapid strides of the Germans and their ability to undersell the English producers, which they do not any longer attribute solely to low wages and longer hours.

I remember, some years ago, a German lady going into a London store to purchase English silk hosiery, and, on her being shown some English goods, said she desired another kind, which she had formerly bought there, and thereupon, the salesman replied, "You mean the hosiery from Chemnitz, Germany."

The extract from the London Times referred to at the beginning of this report is as follows:

> If our traders send out agents, let them choose them from among their own countrymen, not from foreigners who will become acquainted with their trade secrets and will use them for their own benefit. The difficulty here is that so few of our own people have command of foreign languages, without which no traveling agent can do good service to his employers. England should be better represented by commercial travelers, and our commercial classes should keep in view the absolute necessity of being acquainted with foreign languages. So only can they hope to escape the obvious disadvantages under which they suffer by comparison with their foreign competitors. If they do this, there is nothing which they need fear.

WM. D. WAMER,
Consul.

COLOGNE, *January 23, 1896.*

GERMAN FEARS OF AMERICAN COMPETITION.

The commercial and industrial development in Germany since the Franco-German war (twenty-five years ago) has been remarkable. During this interval, Germany has succeeded in pushing her trade in almost every corner of the civilized world, and the fear of the decline of this foreign trade is just now receiving earnest attention, and the strongest kind of appeal is being made to the German Government to lend its aid in opening up new canals and waterways and in reducing freight rates, etc., to the lowest possible degree.

The United States seems to be looming up in the German mind as the country most to be feared in the future as their competitor in the world's markets. The vast resources of the United States and its wonderful productive capacity are referred to by the Germans with great anxiety.

One reads in leading articles such words as, "The threatening competition of America; a cry of warning to be united;" "America, thou art better off than our old Continent; thou hast no ruined castles, no crumbling monuments; thou art not disturbed internally in busy, stirring times, by vain remembrances and useless quarrels."

The railways in Germany are mostly owned by the Government, and strong representations are made to the latter that one of the most important factors to be considered in this connection is the lowering of the freight tariff on raw stuff to be taken to the works, such as ores, etc., that often have to be carried great distances. With reference to America, a recent article says:

> Of the two raw stuffs, coal and iron ore, whose existence form the basis of the iron manufacture, the former exists in America not only in large quantities—for the lowest estimate of the coal-bearing area of the United States gives at least half a million square kilometers—but costs only little to mine. This is proved by the fact that American coke had sunk last year to less that $1, and still does not cost much more than $1.20, while at the same time coke is not to be had in Westphalia under $2.50.

The article goes on to say that the United States is rich in iron-ore districts, the richest of them being near Lake Superior. More than 9,000,000 tons of ore were raised in 1890. When blasting was necessary, the cost was only 3 cents per ton. Thus the cost of raising the ore until placed on the railway was reduced to 21½ cents per ton.

In spite of the great distances, in the United States, from the ore to the coal deposits—distances unknown in Europe—the output of raw material has lately reached a height which puts all past records into the shade. In September last, according to the Iron Age, there were at work 215 blast furnaces, with a weekly output of 194,029 gross tons.

In consequence of this rapid increase of the output, it must happen that the prices will soon sink again, and that the Americans will appear in the world's market in a very unpleasant manner as competitors of the European, and especially of the German, trade. The hope is expressed that something will be done for German ores by reducing the freights.

It may be here stated that, in 1881, the average production of pig iron per furnace in Germany amounted to only 11,609 tons, while in 1892, it was 21,000 tons. The average make of pig iron per workman employed at the blast furnaces of Germany in 1881 is given at 136 tons, and in 1892, at 203 tons.

The net average annual wage of the miners in Prussia was, in 1894, in Upper Silesia, $169 to $174; in Lower Silesia, $178 to $184; in the district of Halle, $176 to $198; in the salt mines in the same district, $226 to $253; in the district of Clausthal, $166 to $177; in the district of Dortmund, $192 to $262; in the State mine at Saarbrücken, $188 to $243; in the district of Aix la Chapelle, $183 to $220; in the Siegen-Nassau mines, $159 to $164; in the other mines on the right bank of the Rhine, $159 to $164, and on the left bank, $161 to $172.

WM. D. WAMER,
Consul.

COLOGNE, *December 27, 1895.*

AMERICAN TRADE METHODS IN GERMANY.

This consulate, in common with many others, receives with every American post more or less mail from American exporters containing catalogues, price lists, and other advertising literature, with the request that distribution be made among merchants and others likely to be interested. Requests of this kind are, of course, complied with promptly. It seems to the writer proper, however, to express his opinion that missionary work of this kind is of little value. Conditions in other consular districts may be different, though that may be doubted, since the business methods prevailing in any one part of Germany are, as a rule, typical of those obtaining in any other part.

The German business man is both conservative and enterprising. He is conservative in that he does not easily break away from old traditions. He is "not the first to lay the old aside," nor, on the other hand, is he "the last by whom the new is tried." In this latter sense, he is enterprising. Once convince him that you have a superior article to the one in which he has been dealing and that he can handle it at a profit, and he will require no further urging to enter into trade relations of mutual benefit.

The problem is, then, to convince him. That, so far as the experience of the writer goes, can not be done with advertising literature. When the German merchant himself attempts to secure new trade, he goes about it in a practical way. He goes to the centers of possible consumption and he convinces dealers that he can offer them an article worth their while. He does this not alone by means of a personal interview, but, when the nature of the article admits, also by the exhibition of samples. He studies trade conditions, demands, and prejudices, and governs himself accordingly. It is by reason of this persevering thoroughness that German export trade has increased so enormously in the past twenty years, an increase that even England, past mistress in all commercial arts, views with the greatest alarm.

Logically, the German dealer places but little faith in the alluring assertions of catalogues and advertising circulars. Judging from his own experience, he is apt to think that an article not worthy to be "pushed" personally, of which no sample is shown him, is hardly worth his attention. That this condition might be met, the writer suggested in a former report* that exhibition rooms of American goods might be established in connection with all the larger consulates, the consuls inviting merchants to visit these rooms at stated periods for examination of samples.

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*See CONSULAR REPORTS No. 183 (December, 1895), p. 456.

There is another method, however, which, being exclusively under the control of American merchants themselves, might be pursued with even greater hopes of success. In brief, the writer would suggest the following rough outline of a plan to accomplish the desired end:

An association of American firms, say forty in number, might agree to contribute $50 a month per member for a year to a common fund, which would thus amount to $2,000 per month, or $24,000 annually. A competent manager should then be selected and an import headquarters established in Hamburg. The manager should then employ a corps of ten German traveling men. The larger towns in Germany should be visited in turn by the entire corps, each member of which would be thoroughly familiarized with four articles. An exhibition room would be hired, samples carefully arranged, and the different merchants of the city in the various lines personally called upon and invited to inspect the articles in which they were especially interested. The merits of the various samples would then be fully set forth and trial orders solicited. All orders as well as business detail would be handled and controlled by the Hamburg office. The corps of workers would remain long enough in one town to exhaust its possibilities thoroughly and would then move on to another, until, by the time the year was at an end, the entire Empire would have been covered. Should the results warrant it, the arrangement could then be continued another year or individual firms could establish their own agents in Hamburg on the foundations already made.

The cost to each firm for the year's work would be $600, exclusive of freight and duty on samples. Many firms spend many times this amount on advertising where the presumptive results are not nearly so large as they may be expected to be through the proper exploiting of the scheme outlined. Why, then, should forty representative American firms not risk the comparatively small amount required, when the possible results are so large?

Of one thing, American exporters may be assured—that no great portion of Germany's trade will come to them of its own accord. They must go after the trade themselves and they must wage an earnest commercial war to conquer new business territory. To that end not only cooperation, concentration of forces, and organization are necessary, but also the "sinews of war" must be there—the capital necessary to give the outlined plan a thorough trial. With these conditions fulfilled, the writer has no doubt of the result. The field is an enormous one. Why should not American exporters cultivate it?

E. W. S. TINGLE,
Consul.

BRUNSWICK, *March 30, 1896.*

GERMAN VS. AMERICAN TRADE METHODS.

The best way to sell to Germans is by sending an intelligent agent to show their samples or by doing here what they do with us—open a branch house in one or more of the large cities. Selling through commission houses is good, but it would be better to send an agent who would see to it that the goods get a fair showing. It is no easy task; it will take a great deal of time and labor. This, however, is the best way, and it is the way Italians and others do. Italian houses, which began in a very small way here, have now several places in Chemnitz, Leipsic, and other cities. It is the way Germans themselves push trade. To-morrow, three men leave this city to take passage at Hamburg on the *Fürst Bismarck* for the United States. They go to show samples and get orders. This is the way in which Germany is winning her success in our market and in the world's markets. There is no secret about it; it is all in the A, B, C book of commerce. If you want to sell in a world filled with competition, you must go out into the markets, show your goods, and solicit trade.

The German, however, I may repeat, will be in no hurry to buy from us if doing so is going to hurt in any way his own people. It is a mistake to put down to conservatism that which is really due to the coolest and keenest kind of calculation. Germans say, "One hand washes the other;" "We must look out for each other after we have looked out each for himself."

All the consuls on earth can not coax or compel a people to put away the things they have been used to from childhood for things they have never seen and about which they know nothing, except from hearsay.

How do Germans sell to us and to others? They send out agents who carry samples to show—men speaking fluently the language of the people among whom they are sent.; men who study the needs of other nations and write home to their firms, to commercial clubs, unions, and chambers of commerce long descriptions showing how best to enter a new, or to extend an old, market.

Great efforts are being made to open German chambers of commerce in foreign cities. One was recently opened in Brussels. At present, a movement is on foot to open them in Buenos Ayres, Montevideo, and other South American cities. Then, again, the Germans have a great many unions (Vereine), the avowed object of which is to aid merchants at home in their efforts to increase their annual exports. Of these, the colonial, geographical, industrial, and industrial aid societies are the most active. To advance the common weal is the object of all. How well they have succeeded is shown by Germany's gain in exports during the last twenty-five years. If our country is a union of States, Germany is a state of unions (Vereine). Nothing is neglected.

Of all the states in the Empire, Saxony (in which the consulate of Chemnitz is situated) is the most enterprising and progressive. It has, in my opinion, the best-posted commercial people on this continent. They borrow the best from all others, readjust it, change it, add to it, and sell it successfully against all others. Tireless, restless, enterprising, ever aiming to be better, they are succeeding where others, lacking these forces, are succumbing.

But it is not here that our merchants must make their greatest efforts to find markets, nor is it here that they have to fear the Fatherland as a competitor. It is in lands lying adjacent to our own. I could point out what might be sold in Saxony; but all that Saxony, with its 3,500,000 souls, would or could buy, or even all Germany, with its 55,000,000, is a mere bagatelle by the side of supplies needed in Asia, Africa, South and Central and North America, and the islands of all the oceans. It is not for us to force fighting here, where the result is so uncertain and the value of the victory so small. It would be a waste of valuable time to come here, leaving the world open to others. Nothing would please or pay Germany better. She knows that that land has the future which has the resources; she knows, as well as do we, how rich we are in reserve forces; she knows what vast wealth nature has piled up between the Atlantic and Pacific, Canada and the Gulf; she knows, too, what an energetic, enterprising people are in the United States. China, Japan, India, Africa, South and Central America, and Russia have markets and wants vastly more important to us than are all the markets of Europe combined.

In the opening up of Asia, we have borne a brave and honorable part. It will be too bad if we are to lose what, with very little effort, we might have obtained, viz, the lion's share of the whole Mongol world's markets. While our merchants or their agents would be wasting time trying to coax this country into looking at its samples, Germany's agents will be in Calcutta, Shanghai, Hongkong, Sydney, Melbourne, Montevideo, Rio de Janeiro, Buenos Ayres—yes, even in New York, Chicago, St. Louis, Boston, Baltimore, and Philadelphia. Our machines are successfully copied in Mannheim, Neuwied, Chemnitz, Breslau, and Berlin, to be sold in all parts of the world, sometimes even in the United States.

It is hardly possible to put goods manufactured in the United States on the Saxon markets; it certainly is not easy, and I doubt very much the ability of our best makers to keep them here a very long time. I have seen too many of our machines made here from samples sold on written order or brought back by men sent over purposely to seek out such.

It is possible, however—and it is this fact that I want to force home—to put our goods into far-off foreign countries, such as I have named above, and make them do more than hold their own with inferior copies. I do not mean that Germans are not inventive when I say they sell copies. Since 1875, the record of the imperial patent office reads like a romance. It shows a phenomenal progress in original inventions and improvements. It would be a mistake to make little of a people whose successful researches and inventions in every field of applied and exact science, in every field of mechanics, have helped to earn for this century the title of the "century of inventions." Even at this moment, the world is beginning to ring with the fame of Professor Roentgen, whose discovery will surely revolutionize physical sciences. Saxony seems never to be satisfied; she is out again in new efforts to find new markets.

Cheapness of labor is one of the last and one of the smallest factors in the Kingdom's success, *i. e.*, if the price of labor is to be measured, as, all things being equal, most men think it should, by its product. Let us hear what Chemnitz's Chamber of Commerce has to say on this subject in this year's report:

> So long as North America's industries were in the first stages of development, it was not hard to export thither. Since the home (American) industries have developed and the difference in wages has grown less, it is no longer right to trust the export business to the New York importing houses. The German exporter can no longer afford to avoid sending skillful and experienced traveling agents to make new connections and to drum up trade. [I may remark here that it is now, and has for some time been, done very successfully.] These agents must speak English and know how to adapt themselves to the habits and customs of those among whom they are sent. They must make themselves familiar with the wishes and wants of the American people and keep their principals well posted. German consuls can and will help solid and respectable commercial houses; but the best aid to be asked or obtained from consuls is not that given by mail to merchants 3,000 miles away, but, rather, that which is given to the agents of such merchants in the cities of the United States when and where they are actively engaged in gathering orders, showing goods, and gathering information.
>
> Many merchants thought it possible to do business by getting names from consuls and sending to their bearers circulars too often turned out in a language unfamiliar to those to whom they were sent. That was and is no way to work up trade with the United States. Advertising in America is carried to an extent of which we here know absolutely nothing. If we want our wares to win their way in United States markets, we must meet the United States competitor with weapons equal, if not superior, to his own. We must put our wares before the people even as he puts his. We must make the most of advertising. We must show off our goods, exhibiting their qualities in the most attractive manner. Narrow-heartedness and a picayune spirit are poor weapons to put into the hands of those who have to invade new fields and fight our first fights for commercial success. Stinginess in measure and weight, poverty of putting up and packing goods are things that Americans detest. Care, too, must be taken to make goods of orders equal to samples, if not better.

While we are calling upon consuls to help us to begin, Germany has been busy honeycombing our country with branch houses, commission houses, etc. She has been sending her agents from Maine to Mexico, from Boston to San Francisco. While we are showing samples sent by mail, she is filling orders for the United States amounting annually from this Kingdom (Saxony) alone to from $15,000,000 to $40,000,000. Much, if not most, of what Saxony and the Empire sends us, we might make or buy elsewhere (in France, England, Austria, or Italy) just as cheaply, just as good, and on as reasonable terms. Saxony's success is due to her agents and traveling merchants more than to anything else. What she buys from us—cotton, corn, meat, and petroleum—she could not get as good or cheap anywhere else on earth. She owes much, if not everything, to the intelligent, well and carefully calculated system by which she first wins foreign trade and then retains it. All the consuls in the service could not sell in Saxony or the Empire one dollar's worth of wares compared with the millions that our merchants might sell in the cities of further-off parts of the world—in the cities of Asia, Africa, Oceanica, Central and South America—now supplied by England and Germany.

For a short time, this people might be coaxed or persuaded into buying our boots, shoes, furniture, and wagons if we could find a way to send the last two articles in parts ready to be put together, thus saving much in the cost of transportation. There should be a big market here for our oak and black-walnut furniture prepared in this way, also for wagons. It is a mystery to many Americans, as well as to myself, that no one has succeeded in getting Germans to buy our carriages and wagons. Here, where the roads are wonderfully made, the wagons are wains and the carriages clumsy chariots. Woods of all kinds are very dear. Huge prices are paid for furniture made of pine and fir. Apples in barrels and dried should find sure, ready, and profitable sales; they do when found in the stores and markets. Nobody believes the "poison" scare in the matter of dried apples, except those interested in having them excluded. Oysters, clam broth in cans, salmon, and all kinds of canned and bottled goods should find a large sale. Ginger snaps, crackers, etc., of the costlier kinds, that come now in large quantities from England, might be made here on machines sent from the United States or the goods might be sent direct and sold.

But, after all, with many if not most of these things, it will be only a matter of a few years, at most, when our machines of all kinds will be copied. Then, they will make their own shoes, nearly if not quite as nice as ours, their own crackers, ginger snaps, etc.

Half the energy necessary to make successful sales in Saxony, or, for that matter, in any part of Germany, put into Africa, Asia, and South or Central America would earn for us permanent markets. Here I have no hopes that they will ever be remunerative for more than a short time. It is all right to declaim, as does England, against German goods, but even she buys them by millions and millions of pounds sterling. South America is bound to us by every bond of sympathy; she should be as eager to buy from us as from England or Germany. She is. Her harbors, the hearts of her people, her markets, from Maracaibo to Buenos Ayres, are open to us. If in ten or fifteen years, we are not first, the fault will be our own. The harvest is ripe for the husbandman. While it may be true that all things come to him who waits, it is true that they come much more quickly to him who goes forth to meet them.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *January 25, 1896.*

ENLARGEMENT OF COMMERCIAL SCHOOLS IN SAXONY.

In the matter of schools, Saxony is still unsatisfied. It is my belief that she now has the very best, all things considered, in the world. I pointed out, some time ago, that Saxony was anxious to improve her system of business education. Thirty-six commercial unions in Saxony have petitioned the Government to give greater aid to commercial schools. The petition, freely translated, reads as follows:

The development of the commercial-school system not only in Saxony, but in all Germany, shows great progress. The impulse thereto was given by the commercial men themselves. Urged recently by the convention of representatives of commercial unions and representatives of commercial supplementary advance schools, held at Brunswick, and to which representatives came from all parts of the Empire; urged, also, by the technical commercial papers, the undersigned (thirty-six) commercial unions regard it as their duty to interest themselves much more than in former years with the development and advancement of the system of commercial schools. The fact is unchallenged that the Saxon State government has taken greater care of, and shown more interest in, Saxony's commercial educational institutions than has any German State for similar institutions. Unchallenged, also, is the fact that owing to this care and interest, on the part of the State, Saxony occupies to-day, in the matter of commermercial schools, an enviable position among the States not only of the Empire, but of Europe. But the demands made on our technical schools, both by the industrial and commercial world, increase from year to year. This is felt first and most in small cities. In these, an effort must be made to improve existing schools and, where none exist, to found new ones. Since, for such schools there is a scarcity of the right kind of teaching material (there is no lack of talent; it needs to be developed) the efforts to be made must be greater and the sacrifices necessarily larger than is common in founding or caring for other kinds of schools.

Conscious, therefore, of these facts, the undersigned unions have concluded to memorialize the Royal Government and to request (1) that the commercial schools needing help shall be granted larger sums of money for their support than has hitherto obtained, in order that they may better serve the ends for which they were erected and better carry out any plans or projects necessary to make them great helpers in aiding Saxony to hold the place she has won in the commercial world; (2) that the Government make extra efforts to develop or obtain well-qualified teaching material.

The Saxon government said, in 1858, that it could not, on principle, grant funds for supporting commercial schools devoted to the training of actual apprentices, but that it was willing to aid special classes for this purpose (commercial training) in existing schools. The government, in recent years, has departed from this standpoint entirely. It has not only attentively observed the workings of these schools, but has come actively to their assistance, at least, so far as the sums appropriated by the government have permitted. These sums, formerly 14,000 marks ($3,332), now 15,000 marks ($3,570), are very small compared with the work to be done.

The Saxon commercial-school system was very materially aided and advanced by two very profitable arrangements, viz, the industrial school inspection board, with its seat in Dresden, under which, besides the technical industrial schools, the commercial schools have been placed; and, second, by the establishment of a pension right for agricultural and industrial teachers and officials. These seem little things, but they mean much. Nor has the end aimed at been attained. By better and broader arrangements, through more liberal allowances on the part of the commercial classes, the towns, cities, and State, the commercial-school system is to be made, right away, more nearly what it should be.

In the last ten years, France and Austria have made herculean efforts along these lines. The education of Saxony's future merchants and merchants' clerks is fraught with great importance to her commerce and manufactures. While other classes—for example, agriculturists, dissatisfied with the meager amount of knowledge gained in the old schools—have opened technical schools or caused them to be opened and attended, commercial houses go on engaging and sending out young men who never saw the inside of a commercial school or college. Elements of this kind can never hope to fill the requirements of the rapidly growing and flourishing commerce whose blessings manufactures and agriculture must feel. If our commercial men are to be better educated, if their standing in the world is to be worth anything, they must add to the very best possible practical training a special, careful, scientific, supplemental training. Saxony saw this fact a long time ago, and began the system to which, to-day, she can point with pride, and to which she—an inland Kingdom, hundreds of miles from the sea—owes the greater part of her commerce, amounting to upwards of $100,000,000, with foreign states. In the last few years, she has added ten to the thirty commercial schools in which her merchants were trained. It is the duty of the State to take the initiative, to help and to improve. This is especially true in the cities of moderate size, say of from 15,000 to 30,000 inhabitants. It must be said to their credit that almost every commercial union in Saxony is helping in this movement.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *February 1, 1896.*

GOVERNMENT AIDS TO GERMAN TRADE.

The German Government has in contemplation a measure which promises to be so advantageous in its operation that it seems worthy of careful studying.

Every commercial nation in the world, with the exception of the United States, has a branch of executive government the express functions of which relate to the control and development of commerce. Prussia has, for many years, been one of the foremost nations in the race and struggle for commercial development, and her Handelsministerium (Department of Commerce) has been of incalculable advantage to the entire German nation. It has been found, however, that because the Prussian Department of Commerce belongs to the Kingdom of Prussia, the Minister of Commerce does not come into relation with the great departments of the Imperial Government in a manner which gives him proper standing and the well-earned consideration which would be his if he were an imperial cabinet chief. Therefore, it is intended to consolidate the Handelsministeriums of the four kingdoms into one Department of Commerce for the whole German Empire.

The German system, as it has been operated in the past, has fostered the erection of chambers of commerce and trade organizations of a like character in every community where there is room and sufficient interest to warrant the establishment of such bodies.

These bodies represent the quintessence of the grand commercial life and element of Germany. There is no question connected with the development of trade interests, of manufactures, credit capacity of foreign countries, advantages to be obtained by treaty stipulations, injuries resulting from measures adopted by other nations in restraint of trade—in fact, there is no question touching upon commercial affairs nearly or remotely to the benefit or detriment of German commerce, whether in whole or in part, the smallest manufacturer or the entire export strength of the nation, which is not thoroughly discussed and carefully considered by the hundred German chambers of commerce scattered throughout the land. These bodies report to the Minister of Commerce with regard to the influence and bearing of all such matters, as they are connected with the commercial interests of the various localities. And by petition or otherwise they often secure action through their minister and the Minister of Foreign Affairs which is of enormous benefit and advantage to them. The Minister of Commerce and his subordinates are in a position to know with the greatest accuracy all matters and details connected with the development and progress of commerce. Every chamber of commerce makes an elaborate report every year. Whenever a foreign government seeks a benefit or a permission which includes an advantage to the commercial interest of the foreign power, the Prussian Minister of Commerce has always been enabled to secure a corresponding advantage for the commercial interests which it is his duty to guard. And when it appears to the Minister of Commerce in Prussia that foreign commercial enterprise or the importation of foreign produce into Germany is a menace to a local interest, great or small, steps are immediately taken to hinder the development of such enterprise.

The American life insurance companies, which were driven from Germany after having been permitted to come here, establish themselves, build up immense and ever-increasing business, and invest large sums of money in real property, may be given as an illustration. When the American life insurance companies came to Germany, the German companies did not fear them, but their success was of such a striking character that means were found to force them out of business.

Another striking illustration of the closeness of the German practice, as contrasted with the generosity of the practice in the United States when treating the question of importations from one country into the other, is to be seen in the manner in which the customs authorities annihilated a growing business in the importation of canned meats from Indianapolis and Chicago. The meats in question are known as brawn, and are a mixture of beef and pork cooked together with salt and a little pepper. While this food is wholesome and good, it is very cheap. The duty on it was about 2 cents per pound, until the importers of the article had created a flourishing trade equal to, say, 25,000 cases per season. Then, the sausage makers and others who found that a good, wholesome American food, which was being sold at 14 cents a pound to the German consumers, was interfering materially with the sales of their sausages, at from 20 to 30 cents a pound, began to protest against the American article and thereupon it was discovered that the duty was wrong. A duty of about 7½ cents per pound was put upon this brawn, on the plea that it is a spiced meat and a delicacy, because a small quantity of pepper is used in its preparation. That is the German way of doing business. Within 20 miles of the place where the circumstance just related took place, is a mineral spring from which, as well as from many others not far away, great quantities of water are exported to the United States. Inasmuch as natural mineral water is free of duty and all artificial mineral waters must pay a duty of 20 per cent, the mineral-spring people of Germany and their agents in America contend that their waters are not artificial; and the United States is generous enough to say that mixing the waters of two springs and the addition of a small quantity of carbonic-acid gas from still another spring does not make an artificial mineral water. That is the United States way of doing business.

If we had a Secretary of Commerce, with authority and power equal to those of the Secretary of Agriculture, he might perhaps have found a way to persuade the German customs authorities that a small quantity of gas added to mineral water offset a small quantity of pepper in American canned meats.

If there were in the United States a system of chambers of commerce which could make representations and appeals to a Secretary of Commerce at Washington whenever their trade at home or abroad was treated with unfairness, I am sure a remedy would be found.

H. F. MERRITT,
Consul.

BARMEN, *November 9, 1895.*

IMPROVEMENT IN GERMAN TRADE.

German trade and commerce are in a prosperous state, and for many years manufacturers have not shown such bright faces. They are complaining only about prices, and are eagerly watching opportunities for advancing these, which, now and again, present themselves. Breslau, the center of the German market for domestic wool, reports a material inflation of business and a considerable advance of prices. The price tendency of wool, cotton, and other raw materials in the world's markets impels the trade, and as retailers continue to report large sales and a fair prospect for the same, the general condition of trade appears in bright colors.

Besides the stir in the home market, a fair and, in some instances, a very considerable amount of orders have come from abroad. The United States and some parts of Central and South America have been large buyers of textiles, and England also, in a manner, although falling short of expectations in most departments. Other countries, especially Russia, are ordering other articles, and thus support the revival of energies in general trade. The textile trade and the iron and steel trades are the backbone of business in this country, and both are now doing remarkably well. They are, in their turn, feeding other departments.

Expectations run high with regard to China and Japan, and if there were a certainty that large orders from these countries would come to Germany, the German market would be thrown open to Russo-Chinese grain. Of late, Japan has distributed valuable orders for army uniforms (blue cloth and gilt buttons) to manufacturers in Berlin and also in Westphalia.

In South America, a thorough change for the better is also looked for, and two of the first-class German banks are going to start branch establishments in Valparaiso, Chile, in addition to the branches they have in Buenos Ayres, Rio de Janeiro, and their numerous other connections, covering the entire length and breadth of Spanish America, where, especially, the German textile trades hold large interests and command a large and, for many articles, almost undisputed market.

Imports into Germany during the first eight months of the year 1895 amounted to 205,367,400 cwts., which is a decline of 1,623,600 cwts. compared with the same period of 1894. Exports came up to 151,705,450 cwts., an increase of 7,967,020 cwts. A large share in the increase is held by cotton goods, linen and linen thread, woolen goods, and silk goods.

Exports to countries across the sea have increased, and, in Europe, Austria-Hungary, Italy, Denmark, Sweden, and Spain report growing imports from this country. Among transoceanic countries an increase is chiefly reported by Argentina, Japan, British Australia, British East India, Canada, the United States, Brazil, Dutch East India, China, Transvaal, Uruguay, and the Cape. In many of these instances, the textile trades had a goodly share.

Commercial relations with Russia are rapidly reviving, thus showing the good effect of the commercial treaty. According to the nature of things (Russia having a highly developed textile trade of her own), the exports to Russia are mainly iron and steel, but her orders are important enough to add considerably to the recovery of general trade, for everybody knows that the prosperity of one important branch of trade must, in the long run, be beneficial to the other branches. There is, consequently, in the general position of the country much to revive the hope that Germany is entering on a new period of prosperity, and yet agriculture is languishing, imports of rye and wheat being very much in excess of what they were last year.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

BRITISH AND GERMAN MERCHANT MARINE.*

The industrial enterprise of England obtained a great advance over that of all other countries chiefly from the fact that she had recourse to machine power earlier than any continental country. In the shipping industry, also,

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* From the Handels-Museum, No. 34, 1895.

England is far in advance of all other nations. She is using all her efforts to apply steam power to her entire mercantile fleet, in order to maintain her maritime supremacy.

Germany, however, has been doing her utmost to overtake England, and the German merchant marine is continually coming nearer to the English in efficiency. The number of vessels belonging to each country is as follows:

Year.	Number of vessels.	Tonnage.	Number of steamers.	Tonnage.
1881.				
England	25,195	6,574,513	5,247	2,723,468
Germany	4,660	1,181,525	414	215,758
1894.				
England	21,327	8,788,503	8,088	5,740,243
Germany	3,729	1,522,058	1,016	823,702

The total number of vessels has been considerably reduced, because smaller ships have gradually given place to larger vessels. This appears at once from the considerable increase of tonnage. As regards the increase of steamers in particular, this was much greater relatively in Germany than in England, although the total number of steamers possessed by England still exceeds that of Germany by about eight times. It is worth notice that the German steamers are considerably larger than the English; for instance, while a German steamer shows an average tonnage of 810.7, that of England is only 709.7. It follows that while the English steamers increased in number by 54.1 per cent in the above thirteen years, their tonnage was only about doubled, whereas in Germany, while the number of steamers was somewhat more than doubled, the tonnage was almost quadrupled. At the beginning of 1881, German steamers possessed an average capacity of 521.2 registered tons; at the beginning of 1894, this had risen to 810.7 tons. This, too, shows plainly the great development of the German steamship lines.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *November 4, 1895.*

CHAMBERS OF COMMERCE IN PRUSSIA.

Although there are in all civilized countries chambers of commerce or corresponding institutions, whose object it is to act on behalf of those interested in trade and industry, there is great variety in their constitutions and in their relations with the state. In some countries, as in England and her colonies and in the United States, the chambers are voluntarily constituted associations of merchants and others, who combine for the purpose of protecting commercial interests and provide the necessary finances for this work by means of annual subscriptions. In other countries, they are directly allied with the government, as is the case with the state boards in Hamburg, Bremen, and Lübeck.

Between these two extremes of private associations and direct state connection, the chambers of commerce of other countries may be said to lie. The French chambers of commerce were the first to come into existence, and in Prussia, they were first established in those parts using the French legal code—Cologne, Aix la Chapelle, and other towns—by a decree dated March 23, 1802. A law was passed by the Prussian Parliament on February 11, 1848, providing that the merchants of any town, where the want appeared to exist, could institute a chamber of commerce, subject to obtaining the royal assent. As a result of that law, several chambers were founded in other parts of Prussia.

When the area of Prussia was extended by the addition of Hanover, Hesse, Nassau, Frankfort, etc., a new law in regard to these chambers seemed to be necessary to secure uniformity over the whole state, and, in 1868, a bill was laid before the Prussian Parliament for this purpose. Just at that period, the Manchester party of Germany was at the height of its power, proclaiming the doctrine of economic freedom and denouncing State interference with economic affairs. When the bill was referred to a special commission for consideration, they regretted that any bill had been formulated. This regret was based on their belief that chambers of commerce should, from the beginning, have been voluntarily constituted associations. Still, as merchants had made use of the chambers as they were, the commission thought they should be made as free as possible from State influence.

The result was a law under which a chamber of commerce has too much freedom to make it a suitable body to act in the interests of trade and commerce. A crop of difficulties has arisen out of this anomalous position of affairs—difficulties which would have been greater and would have caused more frequent conflicts between the Government and the chambers had not the strict text of the law been overlooked.

As time went on, and especially when German commerce developed after the war with France, some amendment of the law became urgent. For several years past, the Government has been considering a new bill, and in the coming winter, it is expected to be placed before the Prussian Diet. In order to ascertain the views of the chambers of commerce themselves on several of the chief reforms which have been pressed for, the Prussian Minister of Trade and Commerce sent to them, on the 1st of January last, a circular letter embodying seven questions. The circular was addressed to the whole of the seventy-four chambers of commerce at present existing and to the nineteen voluntary corporations—which are free from State control—in Berlin, Stettin, etc.

The first of these questions was, whether it was necessary to extend the system of chambers of commerce all over Prussia, and, if in the affirmative, what should be the size of the chambers and how should their spheres of influence or action be fixed. Of the chambers of commerce, sixty, and of the corporations, one, replied "Yes" as to the desirability of extension of the system, considering it necessary in the interests both of the Government and of trade and industry.

They pointed out that, as the Government was at present situated, it did not know whether, in adopting any particular course of action, it was acting in the interests of the whole country, since it would only learn the views of chambers representing a part of the country; that certain work which could be performed better by chambers of commerce than by the Central Government could not, as the law stands, be undertaken; that it was not true that in every district in which the desire for such a body existed there was a chamber of commerce, because there were rivalries between small towns, of which every one wanted a chamber to itself, and between their disputations it had been impossible to found any; and that more often chance and personal influence had acted than the pressure of real need.

The other chambers and corporations took up the line that no good would come from an enforced cooperation between the institutions. The Berlin corporation quoted England as having voluntary chambers of commerce, free from control, which were more energetic and active than any association would be if compulsorily instituted. There was great diversity of opinions in the replies as to the size of the chambers. As to the spheres of influence or action of the chambers, a great majority of the replies favored these being determined by the similarity of interests in single places, while having regard to existing circumstances; and, while some bodies were of opinion that no chamber of commerce should be dissolved without its own sanction first being obtained, others considered that there should be a power of dissolution without sanction to prevent the desired reforms being obstructed by personal ambition in isolated cases.

The second question put by the minister was, whether in future the right of voting should be conferred on (1) all firms, or (2) all firms who pay income tax, or (3) all registered firms, or (4) all registered firms paying income tax, or (5) all registered firms paying a certain minimum of increase tax.

It may be explained, first, that all trades and "industrials" in Prussia have to pay a tax on the incomes derived from their business, and they are graded in four classes, viz, (1) incomes above $10,000, (2) incomes between $10,000 and $4,000, (3) incomes between $4,000 and $1,000, and (4) incomes between $1,000 and $300 (all incomes below $300 are free); second, that all firms, except hawkers, peddlers, and others of small business, have to be registered in the Handelsregister; third, that, at present, the members of Prussian chambers of commerce are, in some instances, elected by firms, in some cases by all firms, in others by the registered firms, and, again, by firms falling under classes 1 and 2 only of the income-tax grading; in fact, there has been variety, and no uniformity, in the method of election.

In replying to the minister's inquiry, nearly all of the chambers of commerce supported a limitation of the electorate or voting power to registered firms paying income tax, inasmuch as the others have small interests, which would be better represented by a separate body.

The third question was, whether the right of voting should be equal in all classes. There were many different answers forthcoming. Some chambers—afraid that the shopkeepers could, by mere force of numbers, overrule the merchants and manufacturers, who, although less in number, represent more important interests—wished to have two electorates. Other chambers did not fear an equal right of voting.

The fourth question was, whether there should be local subdivision. Replies were of different kinds, but nearly all the chambers were opposed to the subdivision of special trades and industries.

The fifth question was, whether chambers of commerce should have the right to be heard by the Government before any bill relating to commerce is presented to the Prussian Diet and Imperial Parliament. To this, all the chambers replied, "Yes." And other privileges were sought, such as the right to be heard in respect of by-laws springing out of general laws; the right to be heard on all questions relating to commercial treaties, traffic matters, stock-exchange matters, the Royal Bank, technical and commercial schools, etc. The great majority of the chambers also seek power to assist the magistrate who keeps the Handelsregister; to have the right of electing brokers; electing umpires (arbitrators) in all commercial affairs, appointing auctioneers, etc.; to give their opinions for use in courts of law and before other tribunals dealing with commercial matters; to issue certificates of origin; and to acquire the rights of incorporated bodies.

Question six related to the possibility of the free corporations (such as that of Berlin) continuing to exist after a reform of the chambers of commerce. On this, opinions were divided.

By the seventh question, it was sought to obtain an opinion on the desirability of instituting a central organization for trade and industry to assist the Government. Nearly all the chambers of commerce replied in the negative.

The ground occupied by these questions and the suggestions made in the replies to them do not cover the whole of the reforms which are considered necessary, but the Government now possesses the views of the chambers, and when their bill is presented, I will return to the subject.

There is an obvious desire on the part of all chambers to acquire extended functions, by means of which the commercial community may secure not only greater control over matters mainly concerning them, but a recognition, in the proper quarter, of their views on important questions affecting their immediate interests.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

REVISION OF GERMAN LAWS.

A notable work is nearing completion; I refer to the revision of German laws. Teutonic laws, one is told, are to replace many of the old Roman ones; the man is to be again more than the State. These, however, are only speculations. There is a great fact, and that fact is one that should interest us. Since 1874, Germany has been at work trying to get a homogeneous and uniform system of laws for the Empire. It was not a question of need, so much as it was one of wisdom. The imperial patent law answered a great need and demonstrated its wisdom in fifty weeks. In February, 1874, the imperial council (Bundesrath) appointed five distinguished jurists to express their opinions as to the best ways and means of arranging a civil code or law system after rough drafts had been made.

In accordance with the opinions and propositions made by this preliminary commission, the imperial council appointed a permanent commission, made up of eminent jurists from all parts of the Empire, whose work it then was to prepare a sketch of such a system of laws as the press and leading public men had for a long time led the nation to believe would be best suited to the country's progress, peace, and happiness. On September 17, 1874, this commission came together for the first time under the presidency of the president of the high court of commerce, Herr Pape. This body worked out a plan of proceedings in seven sittings.

A radical step was taken in the resolution to consult neither any known law book nor sketch of a code, but to build out of the commission's discussions a preliminary draft and to have the different parts of this edited and worked out by men specially selected for the purpose. Each editor was to work out his part and write out his reasons and explanations as clearly and concisely as possible. Regular meetings were held, at which each editor was expected to appear, and at which efforts were made to arrive at as simple and uniform a system as human wisdom could devise.

This commission worked seven years and one month—not a long time when one takes into consideration the difficulties to be overcome, the extraordinary and tiresome collecting and sifting of materials.

The work of the editors alone, *i. e.*, the revising, filled nineteen printed volumes (folio). These books were only books of reference to be used by the editors in going over the whole. On October 1, 1880, the whole commission came together to discuss the partial or preliminary sketches of each editor and to decide finally as to the wording of each law. These discussions were carried on during six years and three months. On December 17, 1887, the chairman of the commission handed the finished plan or project to the Imperial Chancellor.

This plan, with its accompanying explanations, was published by the Imperial Chancellor for the purpose of giving it the widest possible publicity and gaining for it in this way the largest number of diversified opinions, and thus get rich material for the second revision. This object was successful in the highest degree. It called out comments from all parts of the Empire. It may be said to have originated a literature peculiar to itself. Three hundred and seventy-five well-known writers took part in the discussion. Of these, of course, the larger part were lawyers or jurists. Agriculture, political economy, the civil service, established charities, commerce, manufactures, medicine, and surgery were represented. Besides these, seventy-seven corporations sent in opinions. To examine this vast mass of material, to separate the chaff from the grain, to build on the balance, and to add to, where possible, out of their own knowledge, was the task of the jurists appointed as a new commission toward the end of 1890. This commission, like the others, was appointed by the imperial council. It differed from the others in the fact that it had added to it thirteen men of different callings and belonging to different political parties. This second commission worked from April, 1891, to July, 1895, examining carefully and revising systematically and fully the first sketch; result, the second sketch—the one now before the nation for its approval or further revision.

This system of laws, intended to replace the old Roman laws and to give back to the Germans much that the most Teutonic in temperament had looked upon as lost forever, is the work not of the imperial council, not of the commissioners, not even of the jurists of Germany, but of all the people. It is a work for the world to study and wonder at.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *February 5, 1896.*

FARM INDEBTEDNESS IN BAVARIA.

The agrarian press of Germany has so persistently drawn attention to and demanded the amelioration of the condition of the agricultural population of the country of late that an examination into the question to ascertain in what degree these statements were well founded could not be longer avoided.

An official commission was recently appointed in Bavaria to make an inquiry into the state of farm lands, the mortgages upon them, and the general condition of the population affected, including their indebtedness other than that covered by mortgages.

The labors of this commission are now concluded and the result of its examination made public.

Its report differs vastly from the pessimistic descriptions in the agrarian press, which, until now, had always claimed a much greater percentage of indebtedness than the figures contained in the report submitted by the commission show.

The investigation was conducted through he medium of the large landowners, who used eighty questions as a basis for their examination, and as good feeling existed between them and the agricultural population, it is fair to assume that the result is as near the truth as possible.

Twenty-four districts scattered over Bavaria were selected and in each of these, the eighty questions, as mentioned above, were put to the population immediately concerned. This gave, it is thought, a fair average of the whole country.

The principal object was to find (1) the amount of mortgage indebtedness and (2) the amount of current indebtedness other than mortgage.

Concerning the first question (mortgages), it was found that the value of agricultural lands within the twenty-four districts was 28,777,084 marks ($6,848,946.02) and the total amount of mortgages entered in the public record of mortgages was 6,461,175 marks ($1,537,759.65), equal to about 22.5 per cent of the total value. This percentage varied largely in the twenty-four districts, *i. e.*, in one district it was 5.21 per cent; in eight districts, 11.6 to 17.25 per cent; in eight districts, 20.93 to 29.92 per cent; in six districts, 34.78 to 39.72 per cent; in one district, 76.04 per cent.

The second important question—that of current indebtedness—was a much more difficult one than the first, since debts of this nature are easily concealed. If, however, the farmer took the same view of the situation as the writers in the agrarian press, he would not neglect the opportunity to state his full indebtedness and put himself in the most unfavorable light, hoping thus to influence legislation in his behalf, which would seem to be the object of the present agrarian agitation. The inquiry into the state of current debts was intended to include all loans and debts not officially acknowledged and recorded in the public mortgage book.

The total amount of such indebtedness proved to be 2,254,885 marks ($536,662.63), or 7.84 per cent of the total value of the farm lands. This amount would bring the indebtedness from both sources up to 30.34 per cent.

Mortgages and other debts have increased during the last ten years, notably within the last three years, but this increase has not been especially rapid. The principal causes leading to this increase appear to have been purchase at too high a price, want of sufficient working capital, and various minor causes—for instance, in some districts, early marriage was said to have exercised a detrimental influence. Incapacity, however, seems to play an important rôle.

The condition of these twenty-four districts having become worse during the last ten years, it is assumed, therefore, that the condition of the agricultural population of the whole Empire has undergone a corresponding decline.

The population of Bavaria, according to the census of 1890, was 5,594,982; of this total, more than one-half (50.9 per cent) were devoted to the pursuits of agriculture, which, it is presumed, included those engaged in forestry. The mortgage and other indebtedness would therefore appear to be 3.06 marks (72.82 cents) per capita.

The area of Bavaria is 7,585,840 hectares (18,744,611 acres), of which 93.2 per cent is devoted to agriculture, as follows: Farm land, 50.4 per cent; forest land, 33 per cent; pasture land, 5.8 per cent.

Forest land must be included as agricultural land when Germany is in question, since these lands are under regular cultivation, the planting of and caring for trees being systematically carried out. Forestry is an immense industry and source of income to the landed proprietors.

I have been unable to ascertain the value of the agricultural products in these twenty-four districts, hence I am unable to make any comparison with the land values and indebtedness. The output is still good in most of them, especially in those where cattle raising is carried on to any extent.

To make agriculture profitable in Germany, much yet remains to be done—a more rational system of draining and irrigation, proper working up of the soil, and use of fertilizers. As recently noticed in a German newspaper, "it is more advisable to show the peasants the proper mode of cultivation on the ground than to provoke misconceptions in them as to their position and what they should claim at the hands of legislation."

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *October 25, 1895.*

GERMAN CRITICISMS OF AMERICAN MEATS.

Some time ago, a member of a large firm in this city, importing meat products from the United States, visited this consulate and called my attention to an official publication in this vicinity regarding the sale of seal hams as American genuine hams, and warning the public against being deceived. The importer said his business had been very much injured by the publication, and that every one in the trade knew it to be impossible to make hind hams of pigs from fore hams of seals, and he was entirely at a loss to account for such a publication. He further stated that the same report had been in the German Butchers' Journal, which, according to him, makes war on all foreign meat. He did not contradict the report at the time, he and his customers taking it more as a joke than anything else, and not worth noticing. But since attention had been given to it in official quarters, he felt obliged to ask for proofs of this assertion in order to protect his trade, his firm being the only wholesale dealers in American bacon in this neighborhood, and it therefore appearing as if the publication had been specially directed against them.

On the other hand, this firm asserts that the reputation of American meat has been made to suffer by a packing company in Kansas, who sent over thousands of cans of spoiled goods. The reason the meat arrived in a bad condition in Europe was carelessness in salting.

In this connection, it will be well to produce here an extract from a recent article in the German Butchers' Journal on the subject of the importation of American meat into Germany. After stating that the import had very considerably increased during the past year, it goes on to say that the total import of meat into Germany amounted to 44,000,000 pounds from January until August, while during the whole of 1894, it was only 57,000,000 pounds, as against 78,500,000 pounds in 1886. The imports from the United States, January to August, 1895, amounted to 24,750,000 pounds, and for the whole of 1894 to 31,250,000 pounds. With this increase in the imports, there is a proportionate decrease in the exports from Germany, the total export having fallen off from 35,000,000 pounds in 1890 to 7,000,000 pounds in 1894. The decrease has taken place chiefly in the exports to England and France. The German Butchers' Journal, in commenting on this, says:

> From the above figures, it will be seen that more than half of the meat imported comes from the United States, a country where there is as good as no Government inspection of meat. It will, however, also be seen that the exports, as compared with those of former years, have fallen to a minimum. The commercial considerations called forth by this rapidly declining exportation are of no less importance than those from a sanitary point of view, which are based on the fact that more than half of the imported meat is of doubtful nature, since, according to German ideas, it is not in any way subjected to an official inspection.
>
> What guaranty, we ask, is given that the millions of tins of corned beef, the countless tons of raw salted beef, bacon, and lard, from a sanitary point of view, are wholesome and nutritious? Is it not well known that the horse-slaughterer * * * in Long Island City for years worked up 6,000 unserviceable and diseased horses yearly into corned beef and forwarded them to Antwerp? Also the seal hams, trimmed after the manner of pig's hams and specially prepared, come "over here" in enormous quantities, and German money goes "over there," increasing from year to year in an alarming manner. It may be superfluous to say another word about the adulteration of American lard, which is not controlled in any way at all. The circumstance that Germany thus carelessly favors the importation of American meat and lard also causes other countries to be less particular about importing these products, which fact can only react unfavorably on the German exportation. Those in authority ought no longer to shut their eyes to the fact that different measures must be adopted with regard to these matters.

At the request of the Rhenish-Westphalian and the Hesse and Nassau local societies, the German Butchers' Association has petitioned the Imperial Diet not to increase the severity of the existing margarin law as far as it concerns the manufacture of margarin with reference to the use of raw fat produced from native animals slaughtered under strict control, as otherwise the already very low price of fat would fall still further. A number of alterations are further recommended for the protection of pure hog lard, as compared with the so-called American hog lard and other mixtures of fat.

The Butchers' Journal further publishes a report by the imperial German health bureau on the preparation and adulteration of hog lard in America, which, in all essential points, takes the part of the German butchers. Some American lard manufacturers are reproached for using the fat of pigs that have died from suffocation, cold, or other causes in the manufacture of lard. It is claimed that in 1886, Chicago possessed only 237,000,000 pounds of hog lard, while exporting 310,000,000 pounds, the excess exported being thus 73,000,000 pounds. The Journal then says:

> These 73,000,000 pounds of "hog lard" consist of ox tallow, sheep tallow, cotton-seed oil, stearin, and other kinds of fat, especially vegetable oils, such as nut oil, sesame oil, palm-nut oil and cocoanut fat. There were imported into Germany in 1894, 808,233 double hundredweights of lard, lanolin, etc., worth $15,388,000, of which 735,936 double hundredweights, worth $14,012,000, came from the United States, while the exports from Germany only amounted to 4,127 double hundredweights, worth $147,560.

With all this tirade against American meat products, it is a wonder that the German people even taste such food. It is also strange that in the press, in agitating against the alleged unwholesomeness of these American products and the money Germany sends to America for them, no mention is ever made of the nearly $90,000,000 of German manufactures exported annually to the United States. What would be said if the United States Government were to question the purity of the large quantity of German wine imported?

In a recent speech delivered in the Imperial German Diet by a National Liberal on the complaints of the so-called Agrarians, the speaker said:

> One word now on the restrictions against cattle importations. We have every interest to combat all evil arising in this respect, but, on the other hand, we must maintain honorably the obligations imposed upon us by our commercial treaties, and this lies not alone in the interest of the industries, but most intensively in the interest of agriculture. When the demand is made here from a certain side to enforce stricter rules with respect to the importation of cattle from the United States, the answer from the United States will be the prohibition of the import of German sugar. (Hear, hear, from the Left.) Already the United States Government has placed a direct extra tax on sugar, and agriculturists are realizing what it means in this respect to proceed disloyally against a powerful country.

WM. D. WAMER,
Consul.

COLOGNE, *February 8, 1896.*

AMERICAN COTTON YARNS FOR GERMANY.

The rapid and successful development of the cotton-spinning industry in the Southern States, during recent years, has made it evident that the time must soon come when the spinners in the cotton-growing States will enter into competition for the direct supply of weaving yarns to the European manufacturing districts, which have hitherto drawn their supplies of such material from England, Belgium, and Switzerland.

Cotton spinning, especially for the finer and higher grades of yarn, is largely a question of climate, in which respect, the soft, humid atmosphere of Lancashire has given to the spinners of the Manchester district an important advantage; but experience has proven that, with modern improvements and methods, there are localities in the Southern States, within easy reach of the cotton fields, where most grades of weaving yarns can be successfully produced. It may therefore be of timely interest to examine briefly the requirements of the cotton-yarn market in Germany and consider some of the conditions upon which the successful introduction of American yarns in this country will necessarily depend.

England exported, during the first eleven months of the present year, 234,561,900 pounds of cotton yarns, of which 41,737,100 pounds came to Germany. A large part of this immense product was made from cotton grown in the United States. The sizes and grades of these imported yarns can not be definitely stated until the complete statistics are published at the close of the year, but from the returns of 1894, a correct estimate of the requirements of the German weavers may be obtained.

Germany imported in 1894, 611,227,760 pounds of raw cotton, of which 404,649,740 pounds came from the United States, 133,016,180 pounds from the East Indies, and 26,230,820 pounds from Egypt.

The imports of raw cotton yarns during the same period were:

Kinds.	Imported from—		
	England.	Switzerland.	Austria.
Singles:	*Pounds.*	*Pounds.*	*Pounds.*
0 to 17	407,980	....	39,600
17 to 45	9,529,740	3,079,560	....
45 to 60	2,915,220	973,280	....
60 to 79	1,668,700	314,380	....
Above 79	636,160	154,880	....
Not specified	561,000	574,640	....
Doubles:			
0 to 17	71,280	....	....
17 to 45	9,181,260	....	204,160
45 to 60	3,113,820	....	....
61 to 79	1,765,720	....	....
Above 79	2,564,100	88,440	....

The above totals do not include the 1,324,180 pounds of bleached and colored cotton yarns, both double and single, which were imported during the same year, nine-tenths of which came from Great Britain and the remainder from Belgium and Switzerland.

The import duties on cotton yarns coming to Germany, the rates given being per metric centner of 100 kilograms (220.46 pounds), are: Singles—0 to 17, $2.85; 17 to 45, $4.28; 45 to 60, $5.71; 60 to 79, $7.14; above No. 79, $8.56. Doubles—under 17, $3.57; 17 to 45, $4.99; 45 to 60, $6.42; 60 to 79, $7.85; above No. 79, $9.28.

The cotton-weaving industries of western Germany are concentrated mainly in two regions—the Lower Rhine provinces and Westphalia, adjacent to Crefeld, Barmen, and Dusseldorf, and in southern Alsace and Baden, which form the consular district of Freiburg. For the purposes of the present report, there have been obtained, through the assistance of Mr. Charles Jonas, United States consul at Crefeld, and Mr. J. H. Thieriot, United States commercial agent at Freiburg, the following facts concerning the numbers, quantity, market values, etc., of yarns which are used in their respective districts, together with a collection of samples of such yarns in the condition in which they are ordinarily imported. These samples are transmitted as exhibits for the convenience of American spinners who may wish to study more closely the yarns with which their own products will have to compete in seeking a direct market in this country.*

CREFELD DISTRICT.

The cotton yarns consumed during the year 1894 in the manufactures of Crefeld and the neighboring towns of Viersen, Süchteln, Dülken, and Lobberich, amounted to more than 3,000,000 pounds, most of which were imported from England via Hull and Rotterdam, although Antwerp is also a convenient port for the Lower Rhine region of Germany. The warp yarns used there are two-ply (doubles), in most numbers from 40 to 200. Weft yarns are either singles from No. 20 to 80, or doubles from 20 to 200. English-spun yarns are received in bales of about 1,200 pounds, made up of smaller packages or bundles of 10 pounds each, each bundle containing half as many skeins as indicated by the size number of the yarn. For the short transit between Manchester and Crefeld, waterproof coverings for the bales are not required, though they might probably be essential for the long voyage from the United States.

Freights from Hull via Rotterdam to Crefeld are about 60 cents per 100 kilograms (220.46 pounds)—a very low rate, which has been conceded in deference to the large import and to favor as far as possible an important German industry. The subjoined schedule shows the present market values of raw cotton yarns at Crefeld, the prices given being per pound avoirdupois, with 1 per cent to be added as commission, payment at ninety days from date of invoice, free on board at Hull:

(1) Singles, carded—No. 40, 20 cents; No. 50, 22.5 cents; No. 60, 25 cents. Singles, combed—No. 40, 24 cents; No. 50, 26.05 cents; No. 60, 29 cents.

(2) Doubles, carded and gassed—No. 40, 24 cents; No. 50, 26 cents; No. 60, 28 cents. Doubles, combed and gassed—No. 40, 31 cents; No. 50, 33 cents; No. 60, 35.5 cents; No. 79, 45 cents; No. 100, 53 cents; No. 120, 61 cents.

These yarns are made principally from Egyptian cotton. The finer doubles, made from sea-island cotton, cost as follows per pound: No. 120, 85 cents; No. 140, $1.09; and No. 160, $1.08 cents.

In general, the cotton yarns of lower numbers—from 20 to 30—are spun in Germany from American cotton, so that the principal yarn import is of the higher grades, for some of which Egyptian cotton is preferred as being softer and of longer fiber than any except the sea-island cotton of the United States.

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*Samples filed in Bureau of Statistics, Department of State.

FREIBURG DISTRICT.

The consular district of Freiburg comprises, as already stated, the southern portions of Alsace and the Grand Duchy of Baden, wherein are concentrated, notably in the city and vicinity of Mülhausen, some of the most important factories of Europe for the weaving of crétons and a great variety of white and colored cotton fabrics. Formerly, Alsace imported large quantities of weaving yarns, but during the past eight years the introduction of improved machinery, which works with a waste of only 15 per cent, has greatly increased the effectiveness of the local spinneries, which now supply most of the warp yarns down to No. 17 and nearly all the wefts used in that district, the coarser numbers being largely obtained from spinning mills in other parts of Germany.

The yarns used in Alsace-Lorraine are numbered by the French metrical system, which is based on the number of thousand meters of thread contained in a half kilogram. For example, half. a kilogram of No. 20 would contain 20,000 meters of yarn. The Alsatian factories spin and weave from American cotton warp yarns of all numbers from 10 to 40, No. 28 being the size most extensively employed, with Nos. 33 and 34 next in demand. For those from Nos. 36 to 40, Egyptian cotton has of late years replaced to a great extent the American staple, and when prices in England are low, warp yarns of Nos. 33 and 34 are occasionally imported in considerable quantities, although, as already stated, the usual reliance of the Alsatian weavers is upon neighboring spinners for their supplies of these numbers.

The weft yarns range from No. 6 to 50, those principally in demand being Nos. 17, 20, 24, 30, 40, 50, and, especially, No. 37. For the numbers above 37, Egyptian cotton is preferred to American, and weft yarns of Nos. 33, 34, and 44 are also imported when the state of the market there favors such transactions. But the regular and principal importations to this district are the finer numbers, from 40 to 120, both singles and doubles, and made usually from Egyptian cotton.

Yarns for use in Alsace are put up, not in skeins, but wound on spools (cops), which are light tubes that fit into the looms, and, when exhausted, are returned to the spinner to be refilled. English warps arrive in large casks, containing 600 to 650 pounds each; wefts come in cases of about 220 pounds net, no waterproof covering being required. Antwerp is the most convenient port of first arrival for Alsace-Lorraine and Baden, although Rotterdam offers at most times water transportation as far as Mannheim, and Bremen and Hamburg would have certain advantages for imports from the United States by reason of their regular and excellent connections with several leading ports of the United States. In either case, American exporters would have to follow the English practice, which is to employ a shipping agent at the port of entry to receive the goods, ship them to the interior, and pay duties at the German frontier. Such imports are delivered in Alsace-Lorraine free of all charges and on payments of forty-five days from date of invoice. Payments are in German currency, and settlements are made by a commission merchant through a local bank, usually the Bank of Mülhausen. Freight on yarns from Antwerp to Mülhausen is about 6 francs ($1.16) per 220 pounds, and the duties hereinbefore specified are paid at whatever point on the frontier the goods enter Germany.

The present outlook for the cotton-weaving industry in the Freiburg district is highly promising, most of the factories having contracts that will keep them employed until March, and some even as late as June. At Chemnitz, Barmen, Aix la Chapelle, and in the Kingdom of Würtemberg, there are also extensive cotton-weaving interests, which, in addition to those in the Crefeld and Freiburg districts, consume the immense import of English-spun yarns that are received from year to year.

HOW TO WIN THE TRADE.

Such, in general terms, is the field which is open to the enterprise and energy of American cotton spinners. To enter it successfully, will be no easy task, for European manufacturers are, as a class, conservative and prone to continue in paths that they have long and successfully followed. Germany is an ambitious and aggressive manufacturing nation, and, upon principle, imports as little as possible of anything that can be made at home. But Germany grows no cotton, and in the present condition of her spinning industry, must continue to import most of her supply of the finer grades of weaving yarns. The real competition in this market is, therefore, with Great Britain, which has the advantages not only of long experience and an ideal climate for such purposes, but cheap labor and highly improved machinery.

But it would seem that in a branch of manufacture which involves to so great a degree as cotton spinning the use of automatic machinery, American ingenuity and capacity for effective organization ought to count for something, particularly when, as in the present case, the spinning frame is set up almost within sight of the fields in which the raw material is grown. Whether the spinning industry of our Southern States has yet reached a point of development sufficiently advanced to enter the lists successfully in competition with Lancashire and Switzerland, may possibly be open to question, but it will assuredly soon reach such a stage, and when it does, the work of opening a direct outlet for its surplus product should be undertaken by the deliberate, persistent methods which the German exporters have found so effective in other lines of trade.

Capable and experienced agents, familiar with the German language, should be sent with samples of the best spinning yarns that can be produced in the United States to visit the cotton-weaving districts of Germany, study the wants of each factory, submit their samples to trial, master the existing conditions of purchase and payment, and secure at each manufacturing center an energetic, trustworthy commission merchant who will undertake the sale and delivery of American yarns. In every such district, will be found a United States consular officer ready and willing to go about with the traveling agent, introduce him to merchants, manufacturers, and boards of trade, and to assist him in obtaining any desired information.

It will be understood at the outset that, in the effort to establish such a trade, the usual American condition of immediate payment on shipment of goods, which has been found so advantageous in domestic commerce, will have to be abandoned, and that all transactions must be conducted on the terms and stipulations that have long been established here. If the attempt shall be made to compete with English spinners in a field which they now so largely control, it will be necessary not only to offer yarns equal in all respects to theirs, but at the same prices and under similar conditions of delivery and payment.

To do all this successfully, will require energetic and persistent effort, but the result, if successful, will more than justify any sacrifice that such effort may involve.

CONCLUSION.

This topic has been suggested by inquiries which I have received from cotton spinners in the Southern States.

As additional information of presumable interest to American spinners, I add the following names of commission merchants who are prepared to open correspondence with American exporters and undertake the presentation and sale of spinning yarns under conditions to be mutually agreed upon: Camille Perrin, Dornach, in Alsace; Edward Kauffman-Fehr, Freiburg, Baden; P. Knüffermann, J. Clauss, and W. Brüning, Crefeld.

FRANK H. MASON,
Consul-General.

FRANKFORT, *December 19, 1895.*

THE GERMAN CARPET TRADE.

According to the report of the directors of the Berlin Board of Trade, simultaneously with an excessive increase of carpet factories there occurred last year a further fall of prices, which are now, especially for inferior sorts, as low as would seem possible. The qualities have been reduced in the same degree, and the cheap Axminster carpet now offered to the public is so poor that one can only console himself with the hope that the lowest limit has been reached and that the time for better goods will soon return.

The consumption in carpets is unmistakably increasing. The old warp-printing factories, whose products have been long widely known as of good quality, have had, as far as can be seen, a normal business year. Changes in prices for this class of carpets have not been necessary, and only through the very unfortunate habit of selling goods in stock as "job lots" have these factories also suffered.

The branch of hand-knitted carpets has experienced, in the last year, a considerable alteration, through the establishment of a joint-stock company, embracing the three most important manufactories. From this union, a saving of expense on sales and samples is expected, as well as advantages from referring orders for the various qualities to those departments of the business best equipped to meet the wants of the customer.

The sale of the better kinds of knitted carpets is slowly increasing, and the products of the factories are generally good. Inferior qualities are not, by any means, so well received as is the case with the cheap chenille carpets, which come into competition with the better Brussels and warp-printed carpets. The manufactories engaged in hand-knitting work are greatly benefited by this.

The business in oriental carpets has become quite extensive. Larger quantities are coming continually from Persia. The dealers, who now know the German market, supply sizes and patterns to suit the German taste. Prices have fallen so low that competition with German work must become more and more perceptible, which would be the case still more, if the organization of this trade could be made more reliable. The trade is carried on mostly via Constantinople, where, at times, very large and valuable quantities of carpets are stored. Since the United States has given its attention to oriental carpets, very considerable quantities, chiefly of the better sort, have gone to that country.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *November 4, 1895.*

WALL PAPER IN GERMANY.

The last report of the directors of the Berlin Chamber of Commerce contains the following statements:

> The German wall-paper manufacture has suffered severely from the constantly increasing use of English wall paper. It is not to be denied that we have at present a decided preference for the English taste, not only in wall papers, but also in all branches of decoration. We have repeatedly called attention to the superiority of the English wall paper to the German, and must, unfortunately, again express our opinion that the elegance of design and coloring of English wall paper has not, as yet, been equaled in Germany. This is explained by the fact that, in England, artists occupy themselves with the designing of patterns for wall papers, which, unfortunately for our industry, is not the case in Germany. We have, with few exceptions, only mechanically working designers, who, moreover, produce several similar patterns from a single good idea. Thus, there is too little variety in the German assortments. Strange to say, the artistic English designs have hitherto met with a better reception in Germany than in England itself, where the wall papers designed from French patterns are still preferred.
>
> French wall paper has been almost entirely driven out of Germany. Scarcely any papers of the better quality are now bought from France, and very few of the cheaper sort. France has, of late years, introduced few novelties, and only these are purchased at present. England has decidedly outstripped France, and this revolution must be welcomed as an improvement of taste in general.
>
> American wall paper has also made an expedition to Germany this year, and this time, with a success hitherto unexampled. The renewed attempt of the Americans to establish themselves in Germany proceeds from the National Wall Paper Company, in New York, an

association of the more important American wall-paper manufacturers, which has sent a representative to Europe with a very large assortment. This assortment was well received, on account of the existing liking for bright-colored and lightly designed articles and owing to the moderate prices. Unfortunately, however, after delivery, signs appeared in many cases that the papers were not freshly printed, and, in some instances, that they had even turned yellow. The unfavorable impression made by these goods in Germany will not easily be forgotten when offers are again made.

The Japanese leather wall paper has maintained the ground it has long held, and still remains an unsurpassed article of decoration for the most elegant interiors.

The Lincrusta wall paper serves practical purposes and maintains its position, especially as panel paper, beyond all others. The Anaglypta paper can not compete with it to any great extent. A new washable relief paper, which was to rival the Lincrusta paper, has proved to be utterly useless, and can not be seriously taken into consideration.

To conclude, we will mention the patent duplex wall paper, a novelty worth speaking of only in order to show what paltry means are employed to give wall paper a fine appearance. The paper consists of two light papers, a colored and a half-white one, which are pressed together. The pattern is then pressed upon the colored side, and a paper of this kind gives even the connoisseur the impression, at first, of a first-class duplex paper. This illusion, however, disappears when the paper is affixed.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *January 11, 1896.*

LEAD-PENCIL MANUFACTURE IN GERMANY.

In a lecture recently given before the Nuremberg Association for Railway Matters, by Mr. Ernst Faber, of the Johann Faber Lead Pencil Company, Limited, the lecturer made some interesting statements regarding the German lead-pencil trade, which deserve to be brought to the attention of American manufacturers. According to Mr. Faber, there exist in Bavaria twenty-six lead-pencil factories; in Nuremberg alone, twenty-three, large and small, which produce at present, on an average, 30,000 gross, or 4,320,000, lead pencils and crayons per week, employing from 9,000 to 10,000 workmen. This does not include those employed in the auxiliary branches of the industry—makers of fancy pencils and boxes, turners, etc. The factory of Johann Faber alone produces on an average 8,000 gross, or 1,520,000, lead pencils and crayons per week. We must not conceal the fact that this branch of industry has been maintained at the height it has reached with great difficulty.

The extraordinary customs duties which were laid on pencils and similar articles by foreign countries and which placed great difficulties in the way of export, are greatly responsible for this. The import duty in the United States still amounts to 50 per cent of the value; the import of cheap and medium pencils has been made simply impossible. Behind this extraordinary protective tariff, a very large lead-pencil industry was enabled to develop itself, which is represented, at present, by several important factories, and produces almost as many lead pencils as all the Bavarian factories together.

The valuable cedar wood, says Mr. Faber, is wasted in a barbarous manner in the United States; whole districts of the finest forest land have been cleared, but never replanted, so that we obtain always more rarely really good cedar wood, and the blocks which we are now obliged to use supply only half as many pencils as those formerly used. Not only does the cost of production of the pencils rise considerably in consequence of the bad wood, but the American industry pours upon the market its surplus produce of thousands of gross below cost price, and so depresses the prices in countries which impose only low duties or none at all.

The consequence of this is that the German manufacturers can only compete at a loss, and that the trade in cheap markets, such as India, Mexico, Japan, Australia, etc., is as good as lost. The English market has been literally swamped of late years with cheap American pencils at ridiculously low prices. The conditions in other countries are almost as unfavorable to the German export trade as in the United States. In Italy, the duty amounts to 100 lire per 100 kilograms ($19.30 per 220.46 pounds). France and Russia, especially, impose immense duties; for instance, pencils for France pay 180 and 300 francs ($34.74 and $57.90) per 100 kilograms (220.46 pounds); for Russia, 35 kopecks (27 cents) in gold, per pound. Naturally, protected by these duties, a number of pencil factories have been established with success in Russia. In France, the use of German pencils is forbidden for all schools, public boards, authorities, railways, etc. If we further consider the unfavorable condition of trade in Spain, Italy, Greece, and the serious state of things in South America, we must confess that the position of the German pencil industry is not too brilliant. By means of the new commercial treaty with Russia, a slight ray of light has fallen upon the condition of the trade; for the market of that large Empire, whose trade connections extend to Persia, China, and the East Indies, completely closed during the tariff war of 1893, has been again opened.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *September 27, 1895.*

BEET-SUGAR PRODUCTION IN GERMANY.

PROVINCE OF SILESIA.

The province of Silesia, being one of the districts in Germany where the sugar beet is grown and sugar manufactured therefrom, it may prove interesting to learn particulars as to the state of the sugar market, the quantities produced and consumed, and other details relating to that important industry.

The Silesian soil is in some parts particularly well adapted to the growth of the beet, and large tracts of land are consequently under cultivation.

There are fifty-seven sugar mills at work in this district, employing a vast number of laborers, male and female, who are to be had for little money, as country labor is very cheap in Germany.

Steam engines to the number of 717, of 12,913 horsepower, are at the service of the millers, and 161,945 tons of beets were cultivated by the mill owners themselves and 1,029,201 tons were delivered to the mills by the shareholders or other growers with whom contracts had been made.

The duty paid on sugar amounted to 13,537,511 marks ($3,221,928).

Last year's season was not a satisfactory one for the millers and others who set their hopes upon a rise in the price of sugar, as, excepting for one or two short intervals, prices declined throughout the year, the first product losing from 4.20 to 4.45 marks and later products from 3.80 to 3.85 marks, this being the lowest level it had reached for years, and many of the millers had to sell their product at a heavy loss, in order to dispose of their stock. In January, February, and March, the decline was not felt very much on account of the inland refineries buying largely to cover their demand. In April, however, the fact of the large increase of the sugar-beet cultivation caused a fall in price of 1.25 marks. This low quotation was taken advantage of by foreign and inland buyers, but as large quantities were available and the millers had to sell, the price did not improve. The month of June brought a rise of 1 mark, due to the negotiations taking place with the Government of the United States in regard to the sugar tariff. Large orders were given and great hopes were entertained, but still the market remained dull to the end of the season.

The new sugar came out toward the middle of September and was quoted at 12.30 marks per 50 kilograms ($2.93 per 110.23 pounds), basis 88 per cent. This figure was not maintained very long, however, on account of the supply increasing daily.

It soon became apparent that the sugar production of Europe was far ahead of that of the preceding year, and inland buyers retired from the market after buying what they required for immediate wants, while foreign agents bought only moderate quantities.

The price went steadily back up to the close of the year. At the end of December, the first product, basis 88 per cent, sold at 8.65 to 8.75 marks ($2.06 to $2.08), and later products could be had for from 5.80 to 6.55 marks ($1.38 to $1.56) per 50 kilograms (110.23 pounds).

BEET-SUGAR PRODUCTION IN GERMANY.

The total beet-sugar production of Germany amounted, in 1894–95, to 37,400,000 cwts.; in 1893–94, to 27,600,000 cwts.; and in 1892–93, to 24,500,000 cwts. During the season of 1893–94, the consumption of sugar beets in Germany increased from 196,000,000 cwts. to 213,000,000 cwts., whereas in this district a falling off from 26,700,000 cwts. to 23,800,000 cwts. was noticed.

The following figures show the amount of sugar beets consumed in the German Empire and in the province of Silesia during the term 1884–1894:

Year.	Empire.	Silesia.	Silesia's share in total.
	*Cwts.**	*Cwts.**	*Per cent.*
1893–94	212,867,756	23,816,544	11.19
1892–93	196,238,794	26,709,420	13 61
1891–92	189,760,044	21,657,282	11.41
1890–91	212,466,388	28,224,156	13.28
1889–90	196,452,704	26,323,028	13.4
1888–89	157,923,660	20,493,140	12.93
1887–88	139,279,206	16,111,158	12.61
1886–87	166,133,424	22,153,750	13.33
1885–86	141,406,336	17,834,624	12.61
1884–85	208,053,766	27,103,512	13 02

*110.23 pounds.

Quantity of sugar produced and quantity of beets required for each cwt.

Year.	Sugar produced.	Beets required for each cwt. of sugar.
	Cwts.	*Cwts.*
1893–94	27,632,018	7.72
1892–93	24,514,690	8.01
1891–92	23,878,674	7.91
1890–91	26,639,300	7.95
1889–90	25,292,140	7.78
1888–89	19,812,080	7.97
1887–88	19,166,060	7.25
1886–87	20,259,360	8.21
1885–86	16,762,620	8.43
1884–85	23,096,320	9.01

Beet-sugar production of Europe.

Countries.	1893–94.	1892–93.	1891–92.	1890–91.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Germany	1,381,603	1,225,331	1,198,156	1,331,965
Austria	841,809	802,577	786,566	778,473
France	579,111	588,838	650,377	694,037
Russia	660,000	455,000	550,994	544,162
Belgium	235,000	180,000	180,377	205,623
Holland	75,015	68,070	46,815	76,635
Other countries	111,000	97,000	88,635	80,000
Total	3,883,538	3,416,816	3,501,920	3,710,895
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Germany's share in European production	35.6	35.9	34.2	35.9

European consumption of beet sugar.

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1893-94	3,227,734	1890-91	3,158,418
1892-93	3,064,635	1889-90	3,095,834
1891-92	3,240,357	1888-89	2,720,849

The consumption by countries in 1894 was: Germany, 623,296 tons; Austria, 325,002 tons; France, 487,847 tons; Holland, 52,715 tons; Great Britain, 1,483,874 tons; other countries, 255,000 tons.

Consumption of beet sugar per capita.

Countries.	1893-94.	1892-93.	1891-92.	1890-91.
	Kilograms.	*Kilograms.*	*Kilograms*	*Kilograms.*
Germany	12.12	10.39	10.69	10.85
Austria	7.52	7.81	7.28	6.80
France	12.61	12.64	13.82	13.08
Holland	11.59	10.39	11.92	12.57
England	38.46	35.11	36.62	35.71

Average price for sugar, basis 88 per cent, per cwt. (*110.23 pounds*).

Year.	Price.	Year.	Price.
	Marks.		*Marks.*
1893-94	12.75	1889-90	11.82
1892-93	14.35	1888-89	14.87
1891-92	13.77	1887-88	18.22
1890-91	12.97	1886-87	15.67

FREDERICK OPP,
Consul.

BRESLAU, *December 14, 1895.*

GERMAN BEET-SUGAR RETURNS.

The "campaign" year 1894-95 has been a disastrous one for the German beet-sugar industry, although the crop was enormous. In consequence of the low prices of grain, all available ground had been turned into beet fields, and this fact, in connection with an enormous crop both in Germany and all other European sugar-producing countries, caused overproduction, which seriously threatened the very existence of the industry. Those farmers who were not stockholders in the various raw-sugar factories, and had made contracts for their crop, escaped the disaster, but the factories, which had to take large quantities of beets at comparatively high figures stipulated in advance, suffered immensely when the crash in sugar came; and the fact that each factory represents a combination of so many stockholders, or farmers, thus dividing the loss, accounts for the small number of factories which had to succumb.

Sowing was begun very early, but drought and high winds affected the growth of the young plants unfavorably during April and May. Copious rains from June to October, however, repaired all damage done, and ripened one of the biggest crops ever known. The price of raw sugar dropped to 8.50 marks ($2.02) per cwt., and reached an average of 9.55 marks ($2.27),* a figure at which sugar can not be raised profitably even in Germany, where this industry is better developed and more skillfully managed than in any other country.

The following figures are taken from the publications of the imperial statistical bureau and Licht's reports:

The area under cultivation was 441,441 hectares (1,090,801 acres), against 386,481 hectares (954,995 acres) in 1893–94, an increase of 14.22 per cent, yielding 32.9 tons (each of 2,204.6 pounds) per hectare, against 27.5 tons in 1893–94. Of the beets, 41.64 per cent were grown by the factories and 58.36 per cent bought, against 45.58 per cent grown and 54.42 per cent bought in 1893–94. The number of factories remained 405, five factories having been closed, but the same number of new ones started. The beet crop was 3,876,678 tons in excess of 1893–94, or about 36.42 per cent, being 14,521,029 tons, against 10,644,351 tons in 1893–94. The average time to work up the crop was ninety-nine days, against seventy-eight days in 1893–94. The percentage of sugar was 12.2, against 12.41 in 1893–94; it therefore required 8.2 cwts. of beets to manufacture 1 cwt. of raw sugar, against 8.06 cwts. in 1893–94. One hectare yielded 4.16 tons of raw sugar, against 3.56 tons in 1893–94. The total yield of raw sugar in Germany was 1,844,586 tons, against 1,381,603 tons in 1893–94, an increase of 33.51 per cent. The export increased to 1,073,590 tons, from 748,447 tons in 1893–94. The home consumption increased but slightly—from 603,828 tons in 1893–94 to 623,874 tons. The tax on sugar, less export bounty, yielded to the Government 85,714,000 marks ($20,399,932), against 82,231,000 marks ($19,570,978) in 1893–94, and was 1.65 marks (39.27 cents) per head of population, against 1.60 marks (38.08 cents) in 1893–94. The average consumption of sugar per head of population was 10.7 kilograms (23.59 pounds), against 10.1 kilograms (22.26 pounds) in 1893–94. The total raw-sugar production of Europe was 4,792,530 tons, against 3,883,538 tons in 1893–94.

JULIUS MUTH,
Consul.

MAGDEBURG, *January 10, 1896.*

The Deutsche Zuckerindustrie (German Sugar Industry), in a special supplement, deals with the results of the beet-sugar "campaign" which closed on the 31st of July. Although the official figures, which were published on the 24th of August, are not final, and may be subject to slight corrections, they are near enough to permit a practical consideration of the subject, and as no other country is even approximately equal in importance as regards influence on the world's sugar market, it will be useful to make a few extracts.

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*Against 12.75 marks ($3.03½) in 1893–94 per cwt. of 110.23 pounds.

First, the production of the campaign year (August, 1894, to July, 1895) is given at 1,844,586 metric tons, against 1,381,603 metric tons in the previous season. The figures represent raw-sugar equivalent, and it will be seen that the excess of the season just closed over the preceding one is 462,983 tons, or about half the estimated excess of the whole European beet-sugar crop over the last campaign.

The excess, in the case of Germany, is due to the increased area under cultivation, viz, 441,441 hectares (1,090,801 acres), against 386,481 hectares (954,995 acres), and also to the greater cultural yields of beets, viz, about 33 metric tons, against 27½ metric tons, per hectare, the two factors resulting in an excess in the quantity of beets worked up amounting to 3,881,208 metric tons, or 36.57 per cent. The increase of production was, however, not proportionately so great, owing to the yield of 1894–95 being only about 12.22 per cent, against 12.36 per cent in 1893–94, and, again, a less quantity of molasses was converted into sugar.

The production of 1894–95 was the largest yet attained in Germany, and if great and rapid development could be taken of itself as a token of prosperity, this would be something to boast of, but it is only too well known that it is not so, for the large production was an overproduction, which took place at the same time in almost all beet-sugar-producing countries, and has brought about a crisis, with regard to which we can not yet see the results.

As regards the disposal of the production of 1894–95, there have been 1,044,963 metric tons exported, against 727,056 metric tons in the preceding year, an increase of 317,797 metric tons, which may be considered as a comparatively favorable result. But in this respect, also, "all is not gold that glitters," for it is well known that a large portion of this increase remains at Hamburg, the immense deposit lying there forming an incubus upon the market. On the 31st of July, this stock, compared with that of the corresponding period of 1894, was, although somewhat decreased, still 120,000 tons in excess.

The consumption, as compared with that of the preceding year, has increased, having reached (in raw-sugar equivalent) 618,656 metric tons, *i. e.*, 44,623 tons over 1893–94, or an increase of 7.77 per cent, while the production has increased by 33.85 per cent. The average prices for 92 per cent sugar were, in 1893–94, 24.98 marks ($5.94½), and, in 1894–95, 20.88 marks ($4.97) per metric centner of 220½ pounds. Stocks at the end of July were: In 1895, 321,040 metric tons; 1894, 148,035 metric tons; difference, 173,005 metric tons.

The surplus over necessary requirements was, at the end of 1893–94, considered to be 50,000 tons, so that the excess over requirements, that is, over the normal stock considered necessary, had, at the end of the campaign now closed, reached the high figure of about 223,300 tons. Adding the excess stock in Hamburg (120,000 tons), we find that Germany entered on the new season, beginning the 1st of August, 1895, with a total surplus stock of about 340,000 tons—a quantity more than sufficient to meet any deficiency from diminished sowings, even if we were to assume that the crop will be equal in quality to that of the season just closed, which is very unlikely.

AUSTRIAN SUGAR.

As regards the Austrian production, the excess over the preceding campaign is given by the Deutsche Zuckerindustrie as 210,539 metric tons, equal to 25 per cent. The export in 1894–95 was, however, less than in 1893–94, many of the manufacturers preferring to store their sugar rather than accept the low prices lately prevailing. The decrease was about 39,000 tons in raw-sugar equivalent. The total consumption during the season just closed was 51,698 tons greater than in 1893–94. The stocks in the hands of merchants are believed, however, to be relatively larger than usual. The Austrian stock at the commencement of the new campaign of 1895–96 is, like the German, a heavy one, amounting on the 1st of August last, exclusive of Austrian sugar lying at Hamburg, to 336,525 metric tons, against 109,275 metric tons in 1894, an excess difference of 227,250 metric tons.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

INTERNATIONAL CONFERENCE ON SUGAR BOUNTIES.

The present low price of sugar, which has not been reached without disastrous consequences to the cane-sugar producers of the West Indies and Brazil, is the result of the adoption of the bounty system by European nations that were ambitious to establish a domestic sugar industry. Having begun by paying a bounty, the different governments had to keep the thing going, as, although the industry grew to enormous proportions, the beneficiaries of the bounty declared that ruin awaited them if it were withdrawn.

It is announced, as a consequence of the recent conferences at Vienna between Germany and Austria, that those two powers are about to invite France to summon an international conference on the subject of sugar bounties, to meet at Paris. The French special press is inclined to oppose this proposal in the fancied interests of its constituents. The Germans say that the present system is, however, of a most pernicious nature, for no government in its senses and however bad an administrative system may be, can afford to pay such a monstrous bounty as $1 to $1.50 per cwt. to an industry that (as the action of Germany shows) requires no bounty at all. The only effect of the continuance of such a system will be so to increase competition in the production of sugar for export as ultimately to reduce the manufacturers to ruin. The argument mainly relied on in France is that the yield of sugar in Germany is still far greater per acre and per ton of roots than it is in France. This, however, can only be due to the neglect or carelessness of the farmers and manufacturers, for the soil and climate of France are, if anything, superior to those of Germany. So long as the industry relies on making the taxpayers pay for its negligence, it is likely enough that any improvement will be slow; but the French people are only now beginning, by bitter experience and by a dwindling trade, to find out that the protection of the few means the robbery of the many. In the meantime, and until a keenly intellectual nation realizes the position, the Germans, as practical negotiators, may see their way to meeting this difficulty. For instance, for a given number of years, a bounty might be arranged to be given by France just sufficient to compensate for the difference between the average yield in that country and in Germany.

Supposing, for instance, the average yield in France to be 10 per cent and in Germany 12 per cent, the difference would be one-fifth, and this might entitle the French sugar makers to an export bounty of 50 cents per 100 pounds of sugar. In the interests of France, and to compel the producers to improve, this bounty might be arranged to be reduced 10 cents each season, and to cease in five years altogether.

It is for the best interests of the taxpayers of the three countries above mentioned, as well as those of sugar producers generally, that this bounty question should be settled as soon as possible.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

TOBACCO PLANTING IN GERMANY.*

According to a provisional official statement, the number of tobacco planters in Germany in 1895 was 157,019. Of these, there were 76,905 in Prussia, 44,008 in Baden, 13,857 in Bavaria, and 12,578 in Alsace-Lorraine. The estates planted with tobacco reached the number of 234,370, viz, 92,813 of less extent than 4 are (478½ square yards) and 141,557 of 4 are and upwards. Prussia contained 98,146 of this total number of estates, and it may be mentioned that 41,822 lay in the province of East Prussia alone, and that 41,381 of these were each less than 478½ square yards in extent. Whereas in Prussia, the smaller estates are the rule, the reverse is the case in the other states mentioned. In Baden, of 74,892 farms, there are 6,020 smaller ones and 68,872 larger; in Bavaria (total, 25,933), 1,987 smaller and 23,946 larger farms; in Alsace-Lorraine (total, 19,329), 7,638 smaller farms and 11,691 larger ones.

The extent of the farms planted with tobacco in the year 1895 is 52,394 acres, that is, 8,966 acres more than 1894. All the states above mentioned share in the increase, Baden taking the first place, with 20,793½ acres in 1895, as against 17,167½ acres in 1894. In Prussia, the extent of the farms was 15,435½ acres; in Bavaria, 9,019 acres; and in Alsace-Lorraine, 4,218 acres.

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*See CONSULAR REPORTS No. 175 (April, 1895), p. 569.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *October 29, 1895.*

PRODUCTION OF TOBACCO IN GERMANY.

Germany grows more than one-half of the tobacco which it annually consumes. Cigars are as generally smoked in Germany as in the United States; the small price at which they are sold scarcely brings them under the head of luxuries. Where the average American pays 5 cents for a cigar, the German pays but 2 cents. German cigars are milder and poorer in quality than the American, for Habana tobacco is only used in the manufacture of the more expensive kinds.

Notwithstanding its cold climate, the cultivation of tobacco in Germany is quite an important agricultural pursuit. In the year 1894, 17,575 hectares (43,428 acres) were planted in tobacco: The Pfalz, owing to its climatic advantages, is the largest grower, 5,428 hectares (13,413 acres) being devoted to tobacco cultivation. Then follows Baden, with 4,333 hectares (10,707 acres); the Baltic provinces, 3,374 hectares (8,337 acres); Alsace-Lorraine, 1,297 hectares (3,205 acres); Bavaria, 533 hectares (1,317 acres). The remaining 2,610 hectares (6,449 acres) are widely distributed.

The consumption of tobacco in Germany in 1894 was 159,392,580 pounds, or a little over 3 pounds per capita.

The German tobacco crop in the same year was 84,473,658 pounds, or 4,806 pounds per hectare (2.471 acres). Of the nine preceding years, only one (1889) shows a proportionately better crop. In that year, the product was 4,938 pounds per hectare, while the other eight years show much lower figures, 1888 only averaging 3,263 pounds. The quality of the 1894 crop was, on the whole, good (in some cases excellent), so that it sold readily at good prices, the average being 84.02 marks ($20.02) per 100 kilograms (220.46 pounds), including tax, against an average of 78.01 marks ($18.59) for the ten years ending 1894.

Land devoted to tobacco growing in Germany must pay a tax of 4½ pfennigs* per square meter (10.7642 square feet). The partly cured tobacco is taxed 36 marks ($8.57) and the dried 45 marks ($10.71) per 100 kilograms. These taxes produced 11,082,000 marks ($2,637,516) in 1894.

The customs duty on tobacco and tobacco manufactures is as follows, per 100 kilograms (220.46 pounds): Leaf, 85 marks ($20.23); smoking, 180 marks ($42.84); cigars, 270 marks ($64.26).

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *March 14, 1896.*

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*4.2 pfennigs = 1 cent.

BATHS FOR GERMAN MINERS.

On the Continent, mining companies have, of late years, devoted much attention to providing facilities for the miners to perform their ablutions and to change their wet and dirty clothes, so as to enable them to return home refreshed, in dry and warm clothes. In Germany, lavatories were provided in the earliest times, but they rarely consisted of more than a number of washing basins or buckets. In the course of time, however, improvements were introduced. Floors were made of cement or asphalt, and enameled-iron basins provided, and the dressing room was separated from the lavatory. As the mining industry developed, it was found that such arrangements did not suffice for the large number of men employed, and plunge baths were introduced in Westphalia. At first, the miners did not take to them, for fear of catching cold. Indeed, some doctors went so far as to say that miners coming from warm working places underground softened their epidermis too much by warm baths, and were liable, especially in winter, to catch cold on their way home.

The installation of baths at the schools gave an impetus to bathing, and as parents and children gradually began to like the innovation, the number of miners using the baths rapidly increased, until the accommodation afforded by the plunge baths was insufficient. An event of great importance was the invention of a douche, or shower bath, shown in 1870 at the Berlin Health Exhibition, specially designed for industrial use. With this, the whole question of public, school, and workmen's baths entered upon a new era. A method was thus found of cheaply and rapidly giving large numbers of persons the advantage of a bath. The bath of the future is undoubtedly the shower bath. It requires the smallest quantity of water, it enables a large number to bathe at once and in privacy, and by the action of the separate drops of water it has an excellent mechanical cleansing action.

According to an interesting report published by Franke, in the Prussian official mining organ, there were, in 1893, in the mines of the Dortmund district, 209 lavatories at 167 collieries, with 232 shafts. In these, washing facilities were afforded to 132,450 men, or 95.7 per cent of the entire mining population. The lavatories are quite close to the mouth of the shaft or adit, the average distance being 100 feet. At several of the pits, the lavatories can be reached without the men having to go out into the open air, and most of them are so arranged that the surrounding buildings afford protection against the weather. In 117 cases, entirely separate buildings are used, and in 92, lavatories form the chief portion of the buildings, the other portions being used for lamps and for offices. The buildings are usually of brick, roofed with wood, corrugated iron, or roofing felt. The floors are of cement, asphalt, flags, plaster, bricks, or wooden grids. In many cases, the washing and dressing rooms are distinct. In 139 lavatories, there are 365 baths, averaging 1 yard depth of water, and in 90 lavatories, there are 2,526 shower baths, 10 of which are supplied with cold water and 2,516 with warm water. The water used is usually river or well water, mine water being used only when it is clean and good. The water is, in most cases, heated by steam. The lavatories are usually heated by steam pipes.

It has not yet been decided whether it is desirable to separate the miners according to age. In Westphalia, it is usual to separate the lads under 16 from the men.

Baths have certainly proved attractive to the Westphalian miners. In 1892, in the Dortmund district, 83.2 per cent of the miners bathed daily; the cost of each bath is calculated at 1 cent, and occupies five minutes. A very elaborate lavatory has been erected at the Hibernia mine, Gelsenkirchen, of which drawings have been published in the Prussian official mining organ (1895). The plant comprises shower baths for 1,600 miners, and private bathrooms for the managers and overseer.

The success that has attended the use of lavatories in Westphalia led to the erection of two admirable establishments at the Dudweiler and Kreuzgraeben collieries, in the Saar coal field. An illustrated description of the Dudweiler installation is given by Dr. Fueller in his new work on industrial hygiene, reviewed in the Colliery Guardian last week. From this the following particulars are taken:

The massively built house, which is in direct communication with the mouth of the adit, has an internal area of 108 by 61 feet. The height to the roof is 16 feet. Two high, double walls divide the building into three sections, two of which serve for the married miners and the other for the young unmarried ones. Light is furnished by forty-five windows and three skylights, and, at night, by three arc lamps. The floor is of cement, with a slope of 1 in 40. There are 55 shower baths, each in a cell, 5 of these being supplied with cold water and the others with water heated in summer to 86° F., and in winter to 95° F. Each cell measures 4 feet 6 inches by 3 feet 3 inches, and is used by two miners at the same time. The cold-water cells are somewhat smaller and are arranged for one person only. In the dressing rooms, there are a number of forms, and for each man's clothes there is a hook and line running over pulleys at the ceiling. The clothes hung up at the ceiling dry very rapidly. Each hook is marked with the man's lamp number. The building is heated by steam pipes. For a bath, 7 gallons of water are required. Of the 1,900 miners employed at the mine, 1,200 bathe regularly. Seven hundred miners, however, live in barracks where ample washing accommodation is provided. The lavatories have been in existence at Dudweiler and Kreuzgraeben collieries since 1891, and have answered their purpose admirably.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

AMERICAN IRON ORE IN GERMANY.

Some months ago a shipment was made to Germany of high phosphorus Lake Champlain ores for blast furnaces whose product was used in making basic open-hearth steel. A Westphalian blast-furnace owner, who has been experimenting with these ores, has given out some figures comparing the cost of American and native ores. The Lake Champlain ore (60 per cent iron) at works was $3.97 per metric ton, while native minette ore (38 to 40 per cent iron) averages about $2.20. In practice, the American ore yielded 58 per cent iron and the minette ore 35½ per cent, the result being that the cost of ore per ton of pig iron produced amounted to 66 cents more in the case of American ore. The quantity of limestone was about equal in the two cases. In the case, however, of the pig produced from the minette ore, the consumption of coke was about 250 kilograms higher, equal to 70 cents per ton. Other charges, such as labor, etc., amount to about 25 cents per ton, and so it has been found that, notwithstanding the extra first cost of the ore, it is possible to effect a saving of 16 cents per ton in the cost of producing Thomas pig by using American ore.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

PRODUCTION OF IRON ORE IN GERMANY.

If we look into the reasons for the rapid advance of Germany in all branches of the iron industry, we find that, apart from the improved methods of manufacture, the development of her mineral resources and the subsequently ready supply of iron ore for the blast furnaces is of great importance. Unlike England, with an annually increasing import of ore from foreign countries, and unlike the United States, where the ore makes a long journey from the mine to the works, Germany is favored with an abundance of excellent ore, which will last for generations to come, and with excellent means of transportation and cheap freight rates.

Supply of ore.—The total output of iron ore in the German customs union, in 1894, amounted to 12,392,065 tons, of which 8,433,784 tons were produced in Germany and 3,958,281 tons in Luxemburg. As the quantities of import and export are about alike—2,000,000 tons per year—the above total represents the quantity consumed by the smelting works. The imported ores came from Spain, chiefly Bilbao (694,326 tons); Grängesberg and Gellivara, in Sweden (572,289 tons); Algeria, Elba, and Greece—all by the way of the Dutch ports. Besides the foregoing, 127,000 tons of swamp ore were imported from Belgium and Holland.

Native ore is obtained in large quantities only at a few places. The production in Upper Silesia fell off from 1892 to 1894 from 723,300 tons to 618,652 tons. According to the views of competent judges, the mining industry of Upper Silesia can hardly exist longer than another generation; the Saxon mines may be looked upon as practically exhausted; the output in Würtemberg is quite unimportant, amounting only to some 10,000 tons yearly. The Bavarian mining industry is chiefly carried on at Amberg, where it yields 40,000 tons of brown iron ore, and at the mines of the Maximilianshütte, in the Upper Palatinate, which have an annual output of 120,000 tons. These smelting works possess further very extensive beds in Thuringia, where some 60,000 tons of ore, free from phosphorus, are obtained. In the province of Hanover, much iron ore is produced. The mine of the Ilsed smelting works has an annual output of about 470,000 tons; the Bülten-Adenstedt mine yields 312,000 tons, and the supply will last more than one thousand years at the present rate of mining. An excellent Thomas ore is produced from these ores. The old mines of the Georgs-Marienhütte, at Osnabrück, with an output of 118,000 tons, will hold out for forty of fifty years. The same works mine also 50,000 tons of ore in Westphalia, near Ibbenbüren. East of the Porta are the Victoria and Wohlverwahrt mines of the Dortmund union, working well and with good prospects, the annual output being about 80,000 tons. The production of swamp ore in the Weser and Ruhr districts (about 17,000 tons annually) could be considerably increased. The only other important iron mines in Westphalia are those of the Hörder union, on the coal fields of Schleswig-Holstein, with an annual output of 65,000 tons.

On the other hand, the Siegerland is rich in iron ore. The output last year was 1,500,000 tons. About two-thirds of the ore is sold to the blast furnaces of that region; the rest goes mostly to the Rhine and Ruhr. The production of the Dill and Lahn districts, with an output of almost 1,000,000 tons, is very important. Next in order come the Brilon district, including Waldeck, with about 110,000 tons; Gilnhausen (Bieber), with 50,000 tons; Wied (Bendorf), with 33,000 tons; and Deutz-Ründerroth, with 25,000 tons. One-fourth only of the product of the Lahn and Dill mines is worked in the district; the rest goes to Westphalia and the Lower Rhine, and partly, also, to the Saar and the Moselle.

The iron districts above named are surpassed, however, as far as productiveness is concerned, by the beds in Lorraine and Luxemburg, which supply now two-thirds of the quantity produced in the whole district of the customs union. The production of Luxemburg, which, in 1870, amounted to 911,695 tons, rose to 3,958,281 tons in 1894. The advance in mining has been relatively more rapid in Lorraine. In 1872, it supplied only 677,659 tons; in 1880, 995,944 tons; and in 1894, its output reached 3,922,052 tons. Thus, within the space of fourteen years, it has been almost quadrupled. Luxemburg works 1,300,000 tons and exports the balance—2,500,000 tons. According to this rate of consumption, the supply of ore will suffice for one hundred and thirty-five years for the blast furnaces of the country and fifty-six years for export. The Lorraine district is eight times as large as that of Luxemburg, and recent estimates show that about 3,200,000,000 tons of ore are bedded there, which will last, at the present rate of output, for about eight hundred years.

Freights.—In the question of the ore supply for the blast furnaces of Germany, the freight rates form an important part. Though sufficient competition exists between water and rail to make them extremely low, considerable dissatisfaction is shown by the smelters, especially in the Rhenish-Westphalian district, over the rates, since it has been discovered that Belgium and France are carrying off (the latter 1,200,000 tons yearly) the Lorraine ores at rates cheaper than the German rates. Thus, the French Eastern Railway conveys minette from Nancy to the Department of Nord, a distance of about 300 kilometers, at the rate of 1.5 centimes, or 1.2 pfennigs (2.8 mills), per ton and kilometer, while the rate in Germany is 1.96 pfennigs (4.7 mills).

"German ore for German blast furnaces" and "Tariff reductions on native ore" have been made the battle cries, and, like the agrarians, the smelters demand, in unmistakable terms, protection of their interests. The words of the German Emperor—"the future of Germany depends on the completion of her waterways"—are claimed to apply first and foremost to the German iron industry. Only when suitable and cheap means of transportation are created for the German ores, it is claimed, will the iron smelters be relieved from the difficulties which, they say, now surround them.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *March 23, 1896.*

GERMAN VS. BRITISH IRON AND STEEL MANUFACTURE.

In two preceding reports of this series,* attention was invited to the growing anxiety among ironmasters in England on account of the large and steadily increasing imports of iron and steel into England and British colonies from Germany and Belgium. So serious had this competition become in 1894 that, early in that year, the British Iron Trade Association commissioned its secretary, Mr. J. S. Jeans, to investigate and prepare a report on the subject, which was published during the June following. Able and interesting as that report was, it was based mainly on published official statistics, and was therefore necessarily incomplete in many details which were essential to a full explanation of what was generally considered one of the paradoxes of modern industry. Accordingly, after an interval of a year, a carefully chosen committee, including representative iron and steel manufacturers and delegates representing their various classes of employees, was organized in England and sent to Germany and Belgium for the purpose of investigating exhaustively all the conditions which give to the iron and steel industries in those countries their acknowledged strength and vitality. The commission included as delegates six employing ironmasters, with Mr. Jeans as representative of the British Iron Trade Association, and seven delegates from such organizations of workingmen as the Midland Wages Board, the National Federation of Blast Furnace Men, the Board of Conciliation and Arbitration for Iron and Steel Workers of Northern England, etc. It arrived on the Continent in July last, and was received with great cordiality by the leading iron and steel makers of Westphalia and Belgium. The commission divided itself into subcommittees, which visited the different classes of works and made reports of their studies and conclusions at meetings of the entire commission, which were held from time to time during their journey. For greater accuracy, all the facts and statistics embodied in these reports of subcommittees were referred back to the German and Belgium managers for careful revision, so that the collective report, as now published by the British Iron Trade Association, may be accepted as deliberate and correct in every detail.

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*See CONSULAR REPORTS No. 155 (August, 1893), p. 385, and No. 173 (February, 1895), p. 245.

On its return to England, the commission, as it appears, found great difficulty in "agreeing upon the deductions to be drawn from the evidence obtained," and the preface to the report apologizes for its somewhat colorless character, but suggests that this will be compensated for by the appendices which follow the main text and give in full the stenographic notes of the investigations made at the various works that were visited.

It is impossible to condense within the limits of a consular report the contents of a pamphlet of seventy-four closely printed pages, which is itself a condensation, but some of its conclusions, which seem most interesting to American readers, may be concisely summarized.

It was found that, whereas Great Britain exported in 1894 about ninety-two times as much pig iron as Germany, the German exports of finished iron and steel were only 500,000 tons less than those from the United Kingdom, having increased fully 50 per cent since 1890.

The cost of fuel at the mine is about the same in Germany as in Great Britain, but the Germans derive an important advantage from their now all but universal practice of making coke in retort ovens, with saving of the valuable by-products—gas, tar, ammonia, and benzole—which enables the coke to be sold or charged up to the furnaces at a lower cost than is possible in England, where the old wasteful "beehive"-oven system is, with few exceptions, still adhered to.

In Great Britain, the average annual output of a coal miner is from 310 to 320 tons, whereas in Germany, the average is about 260 tons per man, but this difference is largely counterbalanced by the somewhat lower wages of the German miners, as well as their greater tractability and steadiness, the absence of strikes and disorders, and the regularity with which their work is carried on throughout the year.

In respect to ore supply, Germany consumed, in 1894, 10,982,000 tons, of which 2,093,000 tons, or less than 20 per cent, was imported. The native ores used in the Rhine provinces and Westphalia are mainly of the minette quality, which is found abundantly in Luxemburg, the Moselle Valley, and Alsace-Lorraine. These ores contain from 30 to 38 per cent of iron, cost 50 cents per ton at the mine, and are transported cheaply by rail and water to the furnaces, the railway rate on ores ranging from five-eighths to three-fourths of a cent per ton per mile. The imported ores, from Sweden and Spain, smelted in Germany are mainly of Bessemer qualities, and in respect to this item, Germany and Belgium possess, of course, no advantage over Great Britain.

There is now under consideration a project for canalizing the entire River Moselle, which, when accomplished, will give to the ores of the whole minette region a very cheap water transport to Westphalia.

With regard to the net market value of pig iron in the two countries, a close comparison is rendered difficult by the fact that Germany makes and uses mainly basic pig, which is but little employed in England, but, as nearly as can be ascertained, the average prices of foundry iron, forge iron, and basic pig in Germany were 47.68s., 40.77s., and 42.01s. per ton, respectively, against 35.7s., 36s., and 36.6s. per ton for the same qualities in the Cleveland district of Great Britain.

The commission was especially impressed with the admirable construction of the German blast furnaces and steel works, the degree to which the latest and most highly improved methods and appliances are used, and by the marked increase in producing capacity that has been achieved during the past three or four years, the average annual output per blast furnace in this country having risen from 11,609 tons in 1881 to 21,300 tons in 1891 and 24,400 tons in 1893, and is still steadily increasing. Especially are the new German works, not only blast furnaces and Bessemer establishments, but sheet and wire mills, of the very latest types and constructed so as to work at a minimum cost for labor. Most of the large German and Belgian iron and steel companies have complete engineering plants of their own, which are supported largely by work done for outside parties, and are thus enabled to make all needed appliances and repairs at prices far below the rates charged by independent contractors.

Nothing seems to have been more surprising—and, it might be added, discouraging—to the commission than the enormous advantages which they found their continental rivals enjoy in respect to the low cost of railway transportation, both for ore and coal and for their finished products, from the mills to shipping ports. In Westphalia, for example, they found a large steel-making establishment paying 82 cents per ton for hauling its product to the wharves at Antwerp, a distance of 150 miles. This is about one-third the cost of similar freights from the Staffordshire district to London, a distance of 113 miles. All this is in addition to the fact that much of the work of transporting coal, ore, iron, and steel is done in Germany by the Rhine, the Moselle, and numerous canals, on which the rates are even lower than those by rail, so that in respect to transportation, the advantages of the continental operators are not only decisive, but appear likely to be permanent.

Another feature of the German iron industry which especially impressed the commission was the admirable discipline which is maintained among the workmen, the quiet, machine-like steadiness and regularity with which their duties are performed. The report says:

> Each man worked as if he were a piece of machinery fitted into its proper place, which did exactly the right thing at the proper moment, because it could not do otherwise.

This result is attributed to three causes—natural temperament, the fact that nearly every German workman has served in the army and has learned there the lesson of implicit, unquestioning obedience, and, finally, the far-reaching and intelligent supervision exercised by the Government over all the relations between employers and employed and the complete protection which is thereby secured to the laborer in all his rights as an employee and citizen.

Superintendents and foremen in German iron mills, even the head men of working gangs, are in most cases men who have been prepared for their work by special scientific and technical education, and the result is not only efficient and economical management, but a cordial and sympathetic relation between managers and their operatives. At some of the works, special schools are conducted during evenings, at which the head engineer and his assistants give lessons to the younger workingmen in drawing, designing machinery, all the engineering processes incident to the construction and repair of works, and the chemistry of iron and steel manufacture. To the degree that a man is educated, he generally becomes tractable and self-respecting, and when such instruction is supplemented, as is often the case, by a two-years' course of study in a technical college at the cost of the employer, the young man is prepared for, and morally bound to, a career of loyal, intelligent service.

Another important discovery, as recorded in the report of the commission, is the extent to which industrial operations and the promotion of export trade in Germany are under control of syndicates or associations of manufacturers, which regulate the output in their special branches, control and maintain prices, and systematically work together to secure a steady and profitable outlet for their products. There are powerful syndicates of coal operators, coke makers, pig-iron producers, and many others, and one which is of especial interest in this connection, known as the Syndicate of Engineering Works and Metallurgical Establishments, which, although only 4 years old, includes seventy-three different works, has a working capital of $125,000, and has established permanent exhibitions of the products of its members at all the principal ports of the Mediterranean, and is now working up Central and South America. It has the active assistance of German consuls wherever its operations extend, and is said to have increased its sales 200 per cent during the year 1894. By means of this systematic combination, the German iron and steel makers are enabled to wield a powerful, concentrated influence on questions of transportation, legislation, etc., and—what is of far greater importance—maintain high and uniform prices in the home market, and thus enable its members to sell in foreign markets at prices which even England finds it difficult to meet. There are thus two prices for nearly every article manufactured in Germany—the selling price for home consumption and the selling price for export—and the former is uniformly the higher of the two. As the report of the commission states it, "the syndicates do not appear to unduly raise prices, but they take good care to secure higher rates from home than from foreign buyers," and this, as has been often remarked, is a kind of enterprise against which the exporters of other nations, struggling to gain or maintain a footing in the markets of the South and East, find it very difficult to compete.

Summing up the whole case, therefore, in the light of the commission's report, it would appear that the German iron and steel workers enjoy certain distinct advantages over those of Great Britain, and among these are designated, principally, more disciplined labor, highly educated and competent management, harmonious cohesion between operators and assiduous success in the cultivation of foreign markets, low royalty rates, a protected home market, and, above all, far cheaper inland transportation.

May there not be in all this some lessons, especially that relating to the systematic cultivation of foreign trade, which our American iron and steel workers, so richly endowed with natural resources and so masterful and progressive in their own special field, can well afford to study and utilize?

FRANK H. MASON,
Consul-General.

FRANKFORT, *February 17, 1896.*

CHEMICAL INDUSTRY IN GERMANY.

In the great chemical industry, the tendency of manufacturers to guard themselves, by combinations or "trusts," against the general fall in prices has made further progress. Nevertheless, in some articles—sulphate, soda, and sulphuric acid, for instance—there was a heavy decline and proportionate losses. Chloride of lime, also, was affected by the new process of production. Trade in heavy chemicals with Russia recommenced under great difficulties, England having taken possession of the market. "The German chemical industry," it is said, "would welcome with great heartiness further commercial treaties, provided the German import duties had not thereby to be reduced." Trade with the silver countries remains difficult, but with the United States is reviving, and fairly developing with Australia and New Zealand. The output of artificial manures was large and is steadily increasing.

It is estimated that in Germany in general, the soil is given but one-seventh to one-tenth of the fertilization which a rational system demands. The reason is the very unsatisfactory condition of German agriculture, and for what artificial manures the farmers buy, they exact very long terms of credit. On the other hand, thanks to the extreme cheapness of raw materials, the manures can be produced at very small cost.

Coal tar was in active demand, and the price was resolutely maintained, and even raised toward the end of the year. Anthracene held its position, but with sluggish sale. For aniline colors, 1894 was a good year. New connections were opened and the Russian treaty realized expectations, but the silver hindrance caused exports to India and China to decrease. Several of the coal-tar color factories are now giving their attention to the production of medicines.

Carbolic acid fluid and crystal were dull, with declining tendency. Lubricating oils were in steady demand, but varnish manufacturers suffered greatly by the high price of shellac.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

THE WIRE-NAIL INDUSTRY OF GERMANY.

The German wire-nail industry in Rhenish-Prussia, Westphalia, and Silesia has experienced such an extraordinary development in the last fifteen years that, besides supplying the enormously increased home demand, the export has increased 250 per cent. There is hardly another article of the German iron industry which can show an equal increase in its export figures. According to official statistics, the wire-nail export increased from 82½ tons in 1880 to 282 tons in 1894. The value of the exports during the fifteen years amounted to about $25,000,000. The principal markets are England and Japan, which took nearly one-half of last year's export. Argentina and Chile are the most important buyers among the American countries.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

HOW MINERAL WOOL IS MADE.

Of those who know mineral wool, or silicate cotton, as it is sometimes called, probably only a small number are familiar with the simple process by which it is made.

The wool itself, serving a variety of useful purposes, as a nonconducting covering against heat and cold alike for steam pipes and cold-storage-room walls, as a sound deadener in floors of buildings, and as a means of fireproofing, is, as its name implies, a soft and wooly substance, consisting of a mass of very fine mineral fibers interlacing one another in every direction, and thus forming an endless number of minute air cells.

The wool appears on the market in a variety of colors, principally white, but often yellow or gray, and occasionally quite dark, and is made by converting scoriæ and certain rocks, while in a molten state, into a fibrous condition by a steam blast directed against the liquid material. Blast-furnace slag forms the raw material for one variety of the wool and sandstone for another, yielding, respectively, slag wool and rock wool, the latter being preferable for pipe covering, because of the absence of sulphur, which, with moisture present, becomes an active corroding agent.

The furnace slag or the rock, as the case may be, is melted in a large cupola, and as it trickles out at the tap hole in a somewhat sluggish stream it meets a high-pressure steam jet which atomizes the woolen material, if it may be so termed, blowing it in fleecy clouds into the storage room provided for it. Soft and downy, the stuff settles wherever a resting-place offers itself, the heavier wool coming down first, while the lighter portions are blown further along by the force of the steam and settle in the more distant parts of the room. The material thus naturally grades itself into varieties of different qualities.

A thousand pounds of wool per hour are turned out by one of the cupolas, and after the storage room has been blown full, the flocculent mass is pushed into bags, ready for the market. The whole process affords an admirable and interesting illustration of the utilization of a formerly waste product.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

INDUSTRIAL USE OF LIQUID AIR.

An interesting illustration of the rapidity with which purely scientific discoveries frequently become the starting points of new industries is furnished by the case of liquid air. It is not a long time since liquid air was produced for the first time in quantities great enough to admit of its application for purposes of research; yet steps are already being taken to treat liquid air as an article of commerce and to turn it out upon a large scale.

As in most cases of the kind, laboratory methods require modification to suit the needs of wholesale production. Patents are being taken out for machinery which, though constructed upon the principles of that used for purposes of research, will attain the desired end with greater directness and with the omission of several intermediate steps. The necessary reduction of temperature to the critical point of air has hitherto been effected by the successive employment of liquefied gases boiling at lower and lower points on the scale. But the final decrement of heat has been won by the cooling effect due to the rapid evaporation of the product itself. The new apparatus dispenses with the use of these intermediate cooling agents and relies entirely upon initial compression by powerful engines and subsequent partial expansion of the compressed air under carefully regulated conditions.

Most people probably have seen, at one time or another, the familiar lecture-room experiment of forcing a piston suddenly down a cylinder and showing the ignition of a scrap of touch-paper by the heat thus produced. If, while the compression is maintained, the cylinder and its contained air be cooled to the original temperature, then, on suddenly withdrawing the piston and allowing the air to regain its original volume, there will be a fall of temperature corresponding to the rise on compression. If, now, the cooled air could be used to reduce the temperature of a second quantity of air before expansion, it is evident that, starting from a lower point than the first batch, the second would, on expansion, reach a lower point. This is the principle of the new liquid-air apparatus.

A powerful engine compresses air, which is cooled, as far as possible, by ordinary refrigerating methods and passed into a spirally coiled pipe over 100 yards long. This pipe is inclosed in a second spiral. By means of a throttle valve at the end of the inner spiral, a certain proportion of the compressed air is allowed to expand in the space between it and the outer pipe. Thus, the stream of compressed air from the pump is cooled by that portion which has been allowed to expand, and arrives at the throttle valve in a colder state than the portion that preceded it. Consequently, it reaches a still lower temperature on expansion, cooling yet more powerfully the advancing stream in the inner tube. By carrying this cumulative cooling effect sufficiently far, the circulating air is at last brought down to its critical point and liquefies, after which a continuous stream of liquid air is merely a question of engine power.

It is impossible, without the aid of diagrams, to explain clearly how the continuity of the process is maintained, but the cycle of operations can be readily apprehended. There is compression, expansion in a closed chamber, and utilization of the cold thus produced to repeat the cycle from a lower initial temperature.

The inventor, Herr Linde, who is a man of great experience in refrigerating machinery and methods, believes that a large demand will shortly arise for this most powerful of all refrigerators. In the meantime, his apparatus produces with the greatest ease a substance for which there is already a large industrial demand—oxygen gas. During the process just described, the air becomes steadily richer in oxygen until that gas forms some 70 per cent of the product. This relatively pure oxygen is sufficiently good for certain purposes, and it may be further purified from nitrogen if desired. The price of oxygen gas thus obtained compares favorably in respect of cost with that produced by the methods now in use.

It would have been gratifying to have been able to announce that this commercial application of recent scientific ideas had been made in the United States, but, unfortunately, in this, as in so many other cases, it has been "made in Germany," where there is at present a very high standard of technical knowledge.

It is obvious from what has been said that this process is an affair of engineering far more than of chemistry. This remark applies to many of the most important and lucrative manufacturing processes of the day, and engineering chemistry, or chemical engineering, is just one of the things in which the Germans excel.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

THE INDIA-RUBBER INDUSTRY.

The world's consumption of india rubber has been growing so enormously during the past few years that the time does not seem to be far distant when the demand will greatly exceed the supply. Already the difficulty of getting a sufficient quantity of rubber to meet the current needs has led consumers to fear that there will be an early famine. One of the chief causes of this heavy increase in consumption is, of course, the employment of the material in the bicycle trade, and long before the limit has been reached in this direction, another field, that may be quite as wide and general, is being opened up in the use of pneumatic tires upon vehicles of all descriptions.

The United States is the largest consumer of india rubber at the present moment, but that country is followed pretty closely by Great Britain. The other markets follow a long way behind, but the quantity imported by France and Germany is a no mean proportion of the trade done in this material.

It is certain that the threatened famine in india rubber, or, more properly speaking, caoutchouc, would not be so imminent as it is if the owners of the plantations in West Africa and elsewhere had been a little less reckless in their method of tapping the trees. In order to more easily get at the milky juice, it has long been the custom in West Africa and in some of the South American states to cut down the trees bodily, so that the collectors only secured one lot of caoutchouc from each tree instead of a large number of periodical yields. The prevalent idea that this policy was justified by the almost unlimited range of forests producing caoutchouc was very soon found to be groundless, and, now that it is too late for them to have any immediate effect upon the supply, stringent regulations have been made to prevent the cutting down of trees in many countries, and owners are going to a great deal of expense in laying out new plantations, which must take several years to come to maturity. In the meantime, efforts are being made to compensate for these limited supplies by producing artificial india rubber, and several new processes have lately been brought out in France and Germany, though without, as yet, producing india rubber of a suitable quality upon a commercial scale.

The most obvious way of meeting the demand for this material is to give more attention to some of the other rubber-producing trees that are to be found in considerable quantities in South America and elsewhere. At the present moment, French capitalists are trying to make profit out of the scarcity of india rubber by utilizing the balata, which, for many years past, has been employed upon a small scale for a variety of purposes.

There are at least two descriptions of balata, one white and the other red, the latter being known in the English colonies as the "bullet tree," a corruption, no doubt, of the native word "bolletrie." The species being exploited in French Guiana is the *Mimusops balata*, a magnificent tree which is peculiar to all the Guianas. It attains a height of from 90 to 100 feet. The wood is very much sought after for cabinetmaking, on account of its beautiful color, while it has also the property of resisting the depredations of insects. These merits are almost fatal to the existence of the tree as a rubber producer, and in some of the South American states, forests are being cut down without any regard to the profit that can be secured by tapping them in an intelligent manner. In Venezuela, the tree is also to be found in great abundance, and, in point of fact, it grows very freely in the mountainous districts of the northern states of South America. Nevertheless, in British Guiana, immense forests are found in the low-lying districts of swampy Canje.

In a report on the balatas, published recently by M. Hayes, a colonizing agent, it was said that there was a sufficient expanse of forest in the Guianas to allow of the exploitation of rubber being carried on for centuries. It was, however, necessary that something should be done to prevent the wholesale destruction of the *Mimusops balata*, which would very soon disappear if allowed to be cut down indiscriminately for its wood, and one of the richest and most prolific resources of South America would thus be destroyed. In fact, both in Venezuela and Dutch Guiana, the trees are cut down with a view to collecting as much of the juice as possible, and in French Guiana, the same process was, for a long time, employed. When the trees are thus felled, circular cuts are made every 12 inches, and receptacles are placed underneath to catch the juice. The bark is also removed from the tree and juice extracted from it by presses.

In British Guiana, it is only permissible to tap the trees without felling them, and a similar restriction is now imposed in the neighboring French colony. The English method of collecting the rubber is to make horizontal incisions halfway round the tree and connect them with a vertical channel to allow of the fluid flowing down into the receptacle; but a better method is said to consist in cutting out rectangular pieces of bark, from which the juice is extracted by presses. Alternate rectangles must, of course, be left on the trunk, and these can be removed at the next tapping, when the exposed parts of the tree are sufficiently healed. To secure perfect vitality in the tree, it is preferable to tap it only over a third of its circumference every five years.

If properly carried out, the collection of balata rubber is a very profitable industry. One traveler in French Guiana, who was accompanied by three men, collected 666 liters of juice in one hundred and nineteen days, which produced, on coagulation, 720 pounds of rubber. Had the men been able to give their time exclusively to the collection of rubber, there is no doubt that the production would have been doubled or tripled. It is estimated that a single balata will supply 2 pounds of rubber every year without suffering, to any appreciable extent, from the tapping.

The system usually employed for securing coagulation is to pour the liquid into large, shallow pans about 4 inches deep. A hard crust very soon forms at the surface, and this is removed to allow of another crust forming, and so on until the whole of the juice is solidified. The crusts are then hung on lines to dry.

The balata rubber, though perhaps slightly inferior to caoutchouc for certain purposes, and notably as an insulating medium, is yet specially adapted for a great many uses, such as machinery belting, mackintoshes, surgical appliances, etc., and its merits are so far recognized that a considerable trade has grown up during the past two or three years in the Guianas. While the exports of balata rubber from British Guiana in 1881 were only 41,000 pounds, they were no less than 363,480 pounds in 1889, and though the total fell in 1892–93 to 237,450 pounds, the value has been rapidly increasing and for the two years named was $100,000.

In Dutch Guiana, the industry has not been carried on in such a systematic manner. Nevertheless, two American companies are exploiting the balata on a large scale and are sending the product to the United States.

That the industry can be made a very profitable one is seen in the price paid for the rubber, which varies, in Paris, from 3 to 8 francs (57 cents to $1.54) per kilogram (2.2046 pounds), according to quality. It is evident, therefore, that while industrial enterprise is lying under a cloud in South America, it may be to the interest of capitalists to turn these balata resources to account, the more so as rubber is one of those things that are not likely to suffer depreciation to such an extent as to make production unremunerative.

In this connection, a few notes are added to show the condition of German rubber companies.

The new buildings of the German Rubber and Gutta-Percha Goods Factory Stock Company (formerly Völpi & Schlüter), at Berlin, erected during the latter part of last year, are now occupied. The dividend for 1894 was 4 per cent, the rate being the same as for the preceding year. The products are mainly supplies for railroads, and the capital is 1,400,000 marks.

At the general meeting of the Mannheim Rubber, Gutta-Percha, and Asbestos Factory on February 16, it was resolved to pay at once a dividend of 8 per cent and to make an extraordinary transcription of 87,000 marks, in addition to the reserve fund provided for by the articles of incorporation. The remaining profit (725 marks) was carried forward.

The dividend declared on the business for 1894 of the United Berlin-Frankfort Rubber Goods Factories was 8 per cent, the same as for the previous year. This is a mechanical-goods company, capitalized at 1,200,000 marks. Their factories have been run of late at full capacity.

The rubber factory of Voigt & Winde, at Berlin, reported a dividend out of the profits for 1894 of 7 per cent, as against 8 per cent in the previous year. It is capitalized at 1,000,000 marks. The reason for the falling off in profits lies in the low prices which have prevailed for manufactured goods, the growing keenness of competition, and the prostration of certain industrial interests.

An exceptionally good showing is made by the Hanover Rubber Comb Company, a joint-stock company. Their profits for 1894, after ample provision had been made for the usual reserves, permitted a dividend of 21 per cent to be declared. The dividend for the preceding year amounted to 17 per cent.

H. F. MERRITT,
Consul.

BARMEN, *November 23, 1895.*

IMPERIAL AID TO INDUSTRIAL SCHOOLS.

"There can be no question," says an editorial writer in the leading paper of Chemnitz, "that the industrial schools have done a great work in raising the intellectual and technical level of the different branches of trades, in extending the general improvement in material prosperity, and in advancing the Empire to its present proud position among industrial and commercial countries. Every branch of business that has established technical or industrial schools or for which the Government has established them has been much bettered by such schools." This is natural, and especially true when manufacturers themselves take an interest in their establishment and ask Government aid when their own means are not sufficient.

The flourishing condition and high development of French industries, according to the writer, "is due in the highest degree to their industrial schools. In Germany, these schools were not as warmly supported formerly as their importance to commerce would warrant. Hitherto, the Empire has done little to aid them. The school system has been left to the separate states as the only parties competent to supervise, encourage, and control them. Of these, not all have known or been willing to admit the value of industrial schools as aids to industrial endeavors. Time has taught and is teaching how necessary they are. It is only in recent years that Prussia has realized their importance, and it is only in recent years that she has been able to help them. Her budgets show, year after year, increased sums for such schools. In the imperial budget, up to last year, such items had no place. Now, it is hoped they are to appear. The entire industrial world of the Empire is to be congratulated that the Reichstag itself has taken the initiative in extending them aid. A motion has been made to bring in with the budget of 1897-98, 50,000 marks for manual-training schools (Handwerkerschulen) in various parts of the Empire. Of course, this sum is only intended to supplement larger sums, to be provided by the separate states, towns, cities, and communities. Nobody knows better than the introducer of this bill that the Empire exercises no rights over schools, and it is not intended to bring the Empire into the affairs of the separate states. The real question is, Has the Empire a right to aid industrial development? That it has, nobody doubts. How best to aid it is as easily answered, viz, by aiding industrial schools, or, what amounts to the same thing, by helping to extend industrial education. "Now, as never before," continues the writer, "is there need, not for imperial interference, but for imperial co-operation. There are branches of trades whose development has been so rapid, if not hasty, as to have distanced all efforts of the school boards to keep pace with them in apparatus or curriculum. Then, there are industries whose development hitherto has not seemed to need technical training. Now, however, every industry asks for aid in the way of technical schools."

The order of assistance asked for by parties interested is, first, from the manufacturers engaged in the industry to be aided; then, from the town or community in which the school has been or is to be opened; then, from the state; then, from the Empire. That there will be schools needing the aid of the Empire even after the first three factors have furnished their maximum, goes without saying in a country where so many uses are found for funds. No eagerness to aid on the part of the Empire will ever equal the opportunities to aid. A wise discretion will have to be exercised, in aiding, to avoid jealousies. The schools receiving money from the imperial treasury should be such as will commend themselves as aiders of the commonweal, otherwise it will be hard to help. The hope is expressed that this entering wedge will open up wide avenues in which imperial aid, supplementing the efforts of the manufacturers, towns, and states, will place the industries of the Empire on so permanent a basis as to enable them to hold the position attained and achieve others.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 28, 1896.*

ENGLISH INDUSTRIES AND GERMAN COMPETITION.

Germany's capacity to compete with England is not due, as all along supposed, to cheaper labor, but, as watchful observers have believed, to superior technical training. This, England has had to admit. She saw Germany and Belgium beating her, not only in foreign parts, but inside her own gates. Under these conditions, the British Iron Trade Association felt itself called upon to get at the causes of this seeming anomaly. It sent out expert agents, equipped with passports, letters of recommendation, etc., to examine ostensibly the labor question, but really to examine the iron industries of Belgium and Germany. This investigation revealed the fact that German success was due, not to cheap labor, but to "superiority in skill and technical training." This was the report of last October. A recent report not only confirms this, but bases England's incapacity to compete with the Empire and Belgium on the fact that her freight rates are too high—they are twice as high as in Germany.

"The power of the railroad companies," says the report, "is responsible for the fact that the English iron trade has had to yield to its continental adversaries (I translate from the German), and this in spite of its great natural advantages." "The report," says the German writer whom I quote, "neglects, possibly forgets, the fact that all the English iron works are much more favorably situated as to railroad facilities than are most of those in Germany." This is especially true in the matter of iron for export. It is claimed in the report that Belgium pays less wages than England, but this is not claimed in regard to Germany. In the Empire, it is admitted in the report, the wages are scarcely any lower, but in many cases, namely, in the Rhineland and Westphalia, they are higher than in England. "It is due, in the first place, to the better disciplined, organized, and technically trained laborers of Germany, the intelligent direction, economical working of the machines, and the superior education of the engineers; and, second, to the care of the laborers in case of old age, sickness, or accident, by the numerous funds, and to the energy and enterprise of German merchants in seeking new places in which to make sales."

This, freely translated, is the language of England after a most careful investigation. After finding the facts, she has had the courage to convey them, not only to those more specially interested, but to the public. Of course, Germans are rejoicing. They see in this tribute to their skill, concessions to their capacity which will be worth a great deal to their agents.

German workmen are so trained as to know not only what to do, how to do it, but why it is done. The schoolmaster has been abroad. The technical schools have neglected nothing. Manufacturers here and in England have been compelled to admit the advantages of a system such as has compelled the employers of labor in the Empire to see to it that their apprentices attend the Fortbildung (further developing) schools at least twice in each week. England is waking up to the need of introducing such schools into her system.

What is true of the iron industries is true also of textiles. Chemnitz has obtained for herself a place among England's most formidable competitors. Her glove and hosiery makers send millions annually to London and Liverpool for transmission to foreign parts and to every commercial center in England for home consumption. Saxony is sending England, and those who formerly bought from England, all kinds of textiles. Even machinery made here is finding its way to India and England. For six years, England and Scotland have furnished the world with the long stockings worn in games like golf and by bicyclists. The machines for making these stockings are and have been made right here by the hundred to be sent hence to all parts of the British Empire. One firm in Markersdorf, near Chemnitz, sent something like two hundred and fifty such machines to England last year. It is facts like these that are furnishing England food for reflection. Houses here have begun to make golf stockings similar in style, but much lighter than those made in England. They are rapidly finding favor with American buyers. It will be only a short time when most of those bought for the American market will be made here. If I keep calling attention to these things it is certainly not to boom the business of these people, but to keep our American manufacturers fully informed.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 24, 1896.*

ADDRESS BOOK FOR GERMAN EXPORT HOUSES.

On the 4th of December, 1895, the German Imperial Chancellor sent the following letter to the Central Industrial Union of the Empire:

> The address book of German export houses met a great need of German industries and the Empire's export trade, and a new edition would prove of inestimable value. Inasmuch as the highest interests of the whole Empire are involved, I take great pleasure in supporting and indorsing the Royal Minister of Commerce's movement in favor of a new edition. I would be very much pleased to receive from the Central Union an expression of opinion as to the contemplated work.

The very important fact that the address book has active and material aid from the Imperial Foreign Office and the Prussian Minister of Commerce must make it a success. The books are to be sent out from the Foreign Office to consuls, ministers, and ambassadors. They are to be placed in hotels, reading rooms, and in the cabins of all the ocean steamships; fifteen hundred elegantly bound volumes are to be distributed free. This alone is expected to aid exports very materially, the main purpose for which it is to be published. That it is to be printed in German, English, French, and Spanish still further emphasizes the fact that not only must it find favor, but that it must fulfill, as far as a book can, the functions of agents for those by whom it is sent out. That there is need of such a book, is proven by the phenomenal success of the first edition, and, further, by the fact that the export trade of Germany has gone up from 170,089,558 double centners* in 1882 to 238,306,158 double centners in 1895.

Of course, the Chancellor's letter has had the desired and expected effect. The necessary steps have been taken to bring out the new edition, revised up to date. It is to be in four volumes. The first will cover mines, metal industries, machines, and instruments, edited by Dr. Reutzch, of Dresden; volume 2, covering textile, clothing, and leather industries, Dr. Bueck, of

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* 1 double centner=220.46 pounds.

Berlin, editor; volume 3, comprising chemicals, stone, earthen, glass, and wooden ware, besides foods, table delicacies, and miscellaneous articles not otherwise provided for, Dr. Beumer, of Dusseldorf, editor; volume 4, covering exporting, banking, insuring, expressing, transporting houses, agencies and bureaus of information, patent offices, book and job printers, art and music houses, to be compiled by the manager of the German Commercial Confederation, Consul Annecke.

When finished, the four volumes will furnish the very best references, detailed information, etc., arranged alphabetically, covering every branch of German trade connected with the commerce of the country. It will contain special information concerning the kinds and amounts produced, the capacities of houses or factories, and information calculated to aid and advance the export trade. The sharper the competition between industrial nations and the more foreign countries try to meet their own wants by home production, the greater is the need here for increased efforts to maintain fields won after hard fights and for increased efforts to extend sales into territory occupied by others. The fact that the Imperial Government lends its aid to such an enterprise is too significant to be passed over in silence.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *February 25, 1896.*

GUIDE TO SAXON INDUSTRIES.

The Export Union of Saxony is preparing a new guide or address book covering the exporting concerns of this Kingdom and Thuringia. It is to contain the names of all the firms whose capacity and character can be commended. Six hundred of the leading houses have already signified their intention to take part in the work of advertising and distributing the book. Saxony is the most important industrial state in the Empire; hence, such a book, or guide, will be well suited to aid not only buyers from beyond the sea, but those who are or would be willing to send orders from Russia, Spain, Italy, Holland, Belgium, and the Scandinavian peninsula. Like the address book referred to in the foregoing report, this guide is to go out in four languages—English, German, Spanish, and French; hence, it will be well adapted to help trade extension in the countries where those languages are spoken. This book, like the Empire's address book, is to be circulated by the imperial consuls and by the hundreds of correspondents which the union has in all parts of the world. The very fact that Saxony has a good name as an industrial center is reason enough for furnishing the names of the firms that have laid the foundation of her fame and whose energies are making permanent her renown.

Competition is close; others are after the markets earned by Saxon endeavors. To keep what has been obtained and to get more are the ends aimed at by this book. It is to be a ready reference book in all parts of the world. The method maintained by the Germans for getting out and giving the world such books has in it much to commend it to Americans. While many things should and must be left to private enterprise, there are some things that require public, or quasi public, support. Here is an example. No one firm could carry it out at its own expense; hence the need of having it done by the Export Union.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 2, 1896.*

GERMAN ADVERTISING IN JAPAN.

The first number of a new paper, entitled the German Industrial Advertiser in the Japanese Language, has appeared.* It was brought to my attention this morning. It is hoped here that it is to be the beginning of a new era with not only the trade of Japan, but with all Eastern trade. It is, I am told, to be followed by books, pamphlets, and papers in Chinese and other oriental languages. The first number deals with German houses making machines, iron and steel ware, etc.; the second is to take up, in addition, chemicals, textiles, glass, paper, all kinds of writing materials, optical articles, firearms and firearm supplies; No. 3 is to be filled with the names of all kinds of first-class German houses, with editorial articles relating thereto. The succeeding numbers are to come out in such order and at such times as will be indicated by the German consuls in Japan. These papers are to be sent direct to Japanese merchants, chambers of commerce, industrial unions, guilds, and engineers and manufacturers of all kinds; also, to officials, clubs, and to all Japanese who have visited or studied in Germany. They are to be placed in the reading rooms of hotels, railway stations, etc., wherever the Japanese assemble or find time to read, and they are omniverous readers. The first number of a similar paper in Chinese is to appear in the early summer. This, too, is to contain the names of leading and reliable German houses.

The importance of such works as supplementary to the efforts of consuls, agents, and others interested in extending the German trade is beyond estimate. The cost is enormous, for both languages are made up, not as is our own or the German language, from alphabets, but from characters, of which, in the Japanese paper referred to above, no less than 5,000 distinct characters had to be used. The most interesting feature, and, all things considered, the most important thing connected with this enterprising effort to extend German trade, is the fact that the paper was put together and the type set by young Germans trained in oriental languages in the schools of Berlin.

Japan and China are to be assaulted in such manner as to make resistance almost impossible. The cry to "come over and show your wares," issued time and again by German consuls in the East, is answered at last; they are going. The oriental world is to get so good a picture of Germany's powers and capacities as it is possible to put in so small a space as lies between the covers of a readable book. Agents who come back from Japan and China deliver lectures before the commercial clubs and unions of this country and urge the merchants to make big efforts now, in the beginning, for the opening up of extensive trade relations with the East, picturing the possibilities in Germany's favor, and counseling, among other things, the mastering of the oriental languages, especially Chinese.

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*See CONSULAR REPORTS No. 185 (February, 1896), p. 253, for British trade advertising in Japan in the Japanese language.

The enterprise and energies being displayed in Germany are endless. A few weeks ago, the Crefeld Chamber of Commerce urged the chambers of Aix la Chapelle, Elberfeld, and Gladbach to take part in a joint expedition to eastern Asia, the object of which is to open up its provinces to German trade. In 1894, the North German Lloyd carried 37,374 tons (of 2,204 pounds each), worth 45,222,000 marks ($10,762,836). Germany's share of this was 21,956 tons, worth between 16,000,000 and 17,000,000 marks (about $4,000,000). The chief articles of Eastern export are silk, silk waste, tea, wool, cotton, skins, furs, nutgalls, tin, copper, oil, tallow, tobacco, and spices. These are things Germany can hardly hope to produce, and yet they are staple necessaries. Hence, the need to find favor for her own products among the people by whom they are produced. The importance of the vast continent that comprises India, China, Japan, Korea, etc., can not be overestimated. It comprehends almost half the earth's population and fields fertile in articles indigenous to its climate alone. To us, who lie nearer to Asia by many thousands of miles than do the Germans, these efforts must mean a great deal. What is possible to Germany should be more than possible to us. The ends to be attained will more than justify any and every effort we or they are willing to make. Once our wares have won their way to favor, among so enterprising a people as the Japanese and so skillful as the Chinese, they will hold it against all comers.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 26, 1896.*

THE GLASS INDUSTRY OF GERMANY.

The glass industry of Germany is divided into two branches, one branch making glass by melting silicic acids with alkali salts, lime, etc., the other making articles from the glass made by the first method. Both branches employ 50,000 workers in 312 factories, of which 187 are in Prussia, 54 in Bavaria, and 68 in the other states of the Empire. Coming down to details, 207 factories make bottles and hollow ware; 76 make table glass, with a yearly production of 1,250,000 square meters; 18 make crystal and half-crystal glass, 28 make mirrors, 47 make pressed glass, and 3 make optical goods. To these may be added 163 factories, employing 9,000 hands, helping, in one way and another, in the further manufacture of glass or glassware. This makes a total of 475 factories, distributed as follows: Prussia, 241; Bavaria, 108; Saxony, 33; Saxe-Meiningen, 17; Saxe-Weimar, 11; Würtemberg and Schwarzburg-Rudolstadt, 10 each; Brunswick, 8; Baden, 7; Alsace-Lorraine and Saxe-Coburg-Gotha, 6 each; Schwarzburg-Sondershausen, 5; the free cities, 4; Schaumburg-Lippe, 4; Oldenburg, 3; and Mecklenburg, 2.

Competition at home and abroad is so close that no efforts can be spared to keep what has been won by hard work. Recent tariff legislation in Belgium takes that country from Germany and gives it to France.

The import of uncut glass into Germany has increased during the last three years, Great Britain and Belgium sending the largest quantities. In 1893, there came 32,275 double centners,* and in 1895, 51,299 double centners, an increase of 58.9 per cent. There were increased imports in other kinds of glass, viz, in small plates and glass pearls (from Italy and Austria chiefly); also, in hollow green glass, in which France took the lead; in raw glass and enameling and glazing materials, these coming mostly from Great Britain.

Of glass plates, pearls, etc., 7,995 double centners were imported in 1893, 12,253 double centners in 1894, and 11,206 double centners in 1895. During the same year, raw glass and enameling and glazing materials were imported to the extent of 6,630, 9,514, and 10,825 double centners, respectively.

The export figures are very much in the Empire's favor, as shown by the following table:

Year.	Common green hollow glass.	Simple white glass.	Table and decorated glass.	Mirror glass, uncut.
	Double cent.	*Double cent.*	*Double cent.*	*Double cent.*
1885	53,569	13,248	3,638	2,700
1886	59,569	13,248	3,638	2,700
1887	59,888	14,771	3,696	2,958
1888	62,180	16,299	3,809	3,125
1889	46,663	13,790	3,523	2,858
1890	55,270	14,424	4,657	3,061
1891	57,270	171,463	3,482	3,315
1892	65,152	17,553	3,439	3,572
1893	76,578	20,603	2,769	3,496
1894	79,100	19,614	3,204	3,982
1895	83,496	25,422	3,262	4,688

Here, we have an increase in ten years of nearly 100 per cent in white glass, 58.6 per cent in common hollow green glass, and 59.1 per cent in cut, table, and mirror glass. When one takes into consideration the recent discovery made by Fr. Siemens of regenerative gas firing and its huge influence on the production of glass and also the recent efforts made to produce more glasses here for optical and chemical purposes, it will be seen that Germany not only hopes to hold her own, but believes herself strong enough to go out to meet other nations in fields hitherto held almost exclusively by them.

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* 1 double centner=220.46 pounds.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 17, 1896.*

APPLES IN GERMANY.

There is now no doubt that New England apples are welcome in the markets of Germany. Here, they have no apples to compare with our Rhode Island Greenings, the Baldwin, Russet, and Northern Spy. The Germans are very fond of apples, which they eat raw and cooked. Their physicians recommend them as a most healthful article of diet. But their best apples are by no means as good as the worst we produce. There is no reason why each year should not see us sending millions of dollars' worth where we only send thousands. Good winter apples, especially Baldwins, Greenings, Russets, and the Northern Spy, if carefully selected and packed, are sure to sell. There may be many other sorts whose qualities I do not know; I mention these because I believe them to be best suited to bear transportation, and because they improve for a long time before decay begins. The Baldwins and Greenings grow mellow after storage for two or three months in a dry cellar. A little experimenting, with careful noting of results, will certainly reward the merchants for their trouble. Boston, Baltimore, New York, Philadelphia, in fact, all our Atlàntic cities, whence fast freight steamers cross to England and the Continent, should do a good business in this branch. I have seen Baldwins, sent here via Hamburg, snapped up very quickly. The price at which I was offered a barrel of about 2½ bushels (size of a flour barrel) was 30 marks ($7.14). I bought half a barrel, and when I went back, two days later, the whole consignment had been sold.

Our farmers in the coast country from Maine to Florida might make huge profits out of their orchards. I am not sure that Eastern peaches and Florida oranges could not compete successfully with the wretched apologies for peaches and oranges offered at enormous prices in these markets. Of course, much must depend on the cost of ocean transportation. If this could be got down to 75 cents or $1 per barrel, there would be profits for producers, middlemen, and retailers. As soon as these people know that they will get good things at reasonable rates, they prefer them to bad wares, however cheap. The qualities of our fruits are well known. All that is required is a little enterprise to put them into the shops and a little energy with which to push them.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 18, 1896.*

GERMAN EXPORTS TO THE UNITED STATES.

The exports of Germany to the United States during the quarter ending March, 1896, so far as the northern consulates only are concerned, and exclusive of Dresden and Zittau, show a decided increase over the exports from the same consulates during the like period of 1895. Increases of exports for 1896 are to be noted at Berlin, Guben, Hamburg, Magdeburg, and Stettin. The increases at these four consulates were so considerable as to surpass the decrease at nine other consulates by $804,548.25. Berlin, Hamburg, Magdeburg, and Stettin show an increase of $2,785,073.27; Annaberg, Bremen, Brunswick, Breslau, Chemnitz, Glauchau, Hanover, Plauen, and Leipsic show a decrease of $1,980,525.02; net increase, $804,548.25.

At Berlin, while there has been a marked decrease in ready-made clothing, one of the great items of export to the United States (having fallen from $231,157.06 in 1895 to $165,078.54 in the first quarter of 1896), paper ware nearly doubled ($37,259.24, against $67,064.73 this year), linen goods increased about $10,000 (from $28,563.54 to $38,665.85), and gloves and glove leather jumped from $60,932.48 to $159,963.84, while sheep guts and rennets increased from $37,494.21 to $124,810.55. Chromos and photographs also doubled in export values, from $20,361.48 to $40,061.97.

The consular agency at Guben shows an increase of about $19,000 in woolen cloth, against a decrease of about $16,000 in glass and linen goods.

Hamburg's large increase ($657,651.59) is due almost exclusively to beet sugar, $746,493 worth having been exported this year, against only $38,984 in the corresponding quarter of 1895. The same causes—reduction of the great stores of sugar in the United States and the war in Cuba—produced like effects as regards Magdeburg, a great beet-sugar region, whence sugar to the value of $1,148,409 was exported, as against $121,990 last year. At Hamburg, as at Magdeburg, chemicals have increased. At Magdeburg, as at Stettin, portland cement shows a large increase. At Hamburg notable decreases are seen in coffee ($56,304), rags ($14,344), crude india rubber ($44,326), india-rubber manufactures ($23,818), and raw hides ($122,083).

Magdeburg shows an increase in muriate of potash and kainite.

Stettin repeats Hamburg's and Magdeburg's increase in raw beet sugar ($855,631) and has slight increases in seeds, hemp, and ozocerite.

The decrease of $229,507.58 at Annaberg and Eibenstock is largest on dress trimmings ($258,000), leather gloves ($135,000), and paper ware ($33,000). At Bremen, the large increase in raw-sugar export ($144,000) has not been enough—though willow and straw ware increased $11,000 and tobacco $7,000—to overcome a decrease in other articles of export.

Brunswick's export of raw sugar fell to one-half what it was last year; refined sugars increased, however, about $36,000. The export of chemicals was about tripled, that of animals doubled, and that of muriate of potash increased to about five times the amount of last year's first quarter. On the other hand, there was a signal fall in the glove export, amounting to a decrease of $107,186. The net decrease from Brunswick amounted to $517,177.06.

At Breslau, the decrease ($179,340.25) is in haircloth, linen, sugar, silk mixed goods, and less important items. A great increase is to be noted in leather gloves ($1,215,850), and smaller in porcelain and china ($17,467) and chemicals ($5,138).

The falling off at Chemnitz ($421,462) is chiefly in cotton hosiery ($338,883), silk gloves ($81,320), and woolen hosiery ($23,029). Cotton gloves increased over last year's quarter by $51,502, and cotton underwear about the same amount.

Glauchau is more evenly affected; cotton hosiery has fallen off about $27,000, while kid gloves increased about $12,000, so that the net decrease on all exports is only $44,749.84.

Hanover's decrease of $102,552.36 is pretty evenly distributed, the largest falling off being in cement, which is $40,593 behind last year's quarter, followed by gloves, which decreased $16,681, and paper stock, decrease $23,394.

Plauen and Markneukirchen show a fall of $371,090.39, in which figure a decrease of $276,166 in cotton laces, another of $42,094 in embroidered cotton articles, and one of $33,463 in woolen dress goods. Musical instruments have fallen off $14,133 and cotton hose $19,430. An increase of $10,208 may be noted in covers and carpets.

Finally, Leipsic is to be noted with a decrease of $66,388.69, for which a falling off of about $100,000 in furs is responsible, together with about $30,000 in beet sugar and $10,000 in bristles, while increases are to be seen in woolen worsteds ($85,000), leather gloves ($25,000), essential oils ($2,000), and china ($6,000).

Twelve southern consulates of Germany (Frankfort and consulates thereunder) show likewise an advance in value of exports in the first quarter of this year as compared with the first quarter of 1895, but not so large an advance in proportion to the total export as in the thirteen northern consulates. While the total export in the three months from these twelve consulates was $5,986,793, the excess over the first three months of 1895 was only about $250,000.

The total exports to the United States from the northern consulates, including Dresden and Zittau, amounted in the first quarter of 1896 to $3,214,997.36 and in the first quarter of 1895 to $2,442,847.64, showing an increase of $772,149.72.

The fact that twenty-six consulates of Germany show about $1,000,000 more in exports for the first three months this year than they did during the same period in 1895 is remarkable when the almost steady falling off of the annual exports from all Germany to the United States in the past down to the beginning of 1895 is considered: In 1890, $98,800,000; 1891, $97,300,000; 1892, $82,900,000; 1893, $96,200,000; 1894, $69,400,000.

The following figures represent the value of exports from all Germany for the first quarter of 1896: Berlin and consulates thereunder, $13,713,250; Frankfort and twelve of the consulates thereunder, $5,986,793; Dresden consulate-general, $429,924; total, $20,129,967. Assuming that this represents the normal amount of exports for each of the other quarters, and multiplying it by four, we get the sum of $80,519,868 as the total for 1896, without including Cologne, Fürth, Mannheim, Nuremberg, and Sonneberg.

This would represent a return to the figures of the year 1892 were it not more than probable that the third and fourth quarters of 1896 will show much larger exports to the United States. If this occurs, the figure is likely to approach that of 1893.

At present, the merchants of Berlin are complaining bitterly of the lack of business from the United States. They say that American buyers and orders are few and far between. The rise which began last year from the lowest notch ($69,000,000 in 1894) will only continue this year, if the next eight months show better business.

It may be noted that during the five years 1890–1894, exports from Germany increased steadily so far as tonnage is concerned, thus: In 1890, 193,650,810 double hundredweights; 1895, 238,306,158 double hundredweights. But when we come to examine the value of the exports, we find no great advance, viz: In 1890, 3,410,000,000 marks; 1895, 3,416,000,000 marks.

Although Germany exported 44,655,348 double hundredweights more of products and merchandise in 1895 than she did in 1890, the difference is only represented by 6,000,000 marks, a proof of the tremendous fall in prices which has taken place. It is an evidence of the truth of the complaints heard in Germany that the bulk of exports does not represent profits. It is also useful for Americans to consider when they complain of low prices at home, since it shows that the trouble lies deeper than national issues and has to do with principles governing the markets of the world.

Lately, the Agrarians have made some determined raids on the imperial and Prussian treasuries. They have been fought off in many cases, but have won in others. Thus Prussia's Agrarians have succeeded in getting a number of million marks for the erection of storehouses for grain, and in the Imperial Parliament the Agrarians have put through a measure which strikes at the financial and produce exchanges, notwithstanding protests from exchanges and other mercantile bodies against meddling with the freedom of selling and buying.

The war between the landowning and mercantile classes is becoming acute. Lately, a member of the Prussian Landtag introduced a bill against poultry from foreign countries on the ground that foreign fowls have the pip. As fowls are dear in Germany, the proposition has not been received with enthusiasm in other than poultry-raising circles.

Next to Great Britain and her colonies and Austria-Hungary, the United States is the greatest consumer of German products; we are also third in Germany's list of nations that supply her with products.

In view of these facts, it would seem the sooner the two countries come together and reach an agreement regulating commerce and giving to both the advantages now in practice between Austria-Hungary and Germany, the better for the people of both nations.

CHARLES DE KAY,
Consul-General.

BERLIN, *April 30, 1896.*

AMERICAN HORSES IN GERMANY.

After the adoption of measures against American cattle coming into this Empire, I interested myself as actively as I could to induce dealers to import American horses, but the process of gaining confidence for such an enterprise was slow, and success was not secured until Americans themselves imported horses and established the trade.

Since the first importation by dealers from St. Louis to Hamburg, one year ago last January, fully 10,000 American horses have arrived in Germany. They have given such thorough satisfaction that dealers from Berlin, Hamburg, Bremen, and other points have become enough interested to import horses themselves.

The Danish, Austrian, and Russian horses usually supplied this market with draft and work horses. The Austrian and Russian horses being light, the Danish was the only real competitor the American horse had in northern Germany, but the American are really preferred by those who use them, and are sought after before any of the others.

Buyers from Sweden purchase American horses in Bremen and Hamburg.

In the beginning, some of the American dealers were embarrassed for the reason that the American horses had not been tried, and it was consequently not known how valuable they would prove to be. A more serious difficulty, however, was caused by the German dealers, who resorted, in many instances, to that practice which they appear to understand so well—they formed "combines" against the American dealer. An example was shown in the case of an American who shipped horses from Hamburg to Leipsic. The dealers in Leipsic who control the trade apparently agreed to "freeze out" the American by seeing to it that no more than nominal offers were made for his horses. The horses were taken from Leipsic to Berlin, where the same operation was repeated with success. Another dealer from Bremen shipped some horses to Leipsic shortly after this. The same practice was attempted with him, but more cautiously than with the previous dealer, for the horses were really desired. Three hundred marks apiece was the highest offer made, but the American was a positive man, and declared the horses would be sent back to America unless they could sell for something near their market value, and thereupon, began to reload on the cars for shipment back to Bremen. Believing the American to be in earnest, the Leipsic dealers raised their offer and bought the horses for 750 marks apiece straight through. Some of these horses retailed afterwards in Leipsic for 1,400 marks.

A very little experience of this kind soon demonstrated that it was not possible for an American to sell horses to advantage in Germany. An American can not retail at all, for the reason that the German consumer will not buy from him. The American dealers, consequently, concluded to consign their stock to German dealers, who make sure profits and run no risks.

After the fact became established that the American horses were wanted and that consumers were willing to pay from 1,000 to 2,000 marks for them, according to size and quality, the German dealers concluded they would import the horses themselves and take all of the profits, which, they argued, must be great, for the reason that the horses could be bought in the United States at from $10 to $30 apiece. But, as may be imagined, their expectations were not fully realized. American dealers of experience were able to buy and ship to better advantage than strangers could do, although the German never meets with similar obstacles in the United States that the Americans do in Germany. The American dealers are, consequently, still in the business.

There are German dealers who have not entered into this trade for the reason, apparently, that they invariably seek to discredit the animals they desire to buy, with a view of getting them cheap; and the Americans in particular will not deal with them. These persons have now begun to develop an underhanded system for the purpose of discrediting the American horses, with the object in view either of making it unprofitable for the Americans to import or to drive the horses out of the market altogether.

The field for their operations appears to be peculiarly adapted for that kind of work. An illustration of this is seen in reports at some place or another, every time a cargo of American horses is landed, that they arrived in "bad condition," were sick, or that many died, etc.

A cargo of eighty-five head which recently landed in Bremen were all in good condition excepting a few which stood in drafts and caught cold. They were inspected by the veterinary surgeon at Bremerhaven, as the law requires, and received a clean bill of health. Some days after they came to Bremen, and after many had been sold and delivered and those with colds had greatly improved, the veterinary inspector in Bremen, under police authority, declared a close quarantine on the ground that the animals had influenza—a contagious disease. I inclose herewith a copy of the published order declaring the quarantine.

I personally inspected the horses, and, basing a judgment on much experience with horses, a knowledge of medicine, and what I saw there, I was positive in the belief that the horses in question did not have influenza. This belief was supported by the opinions of nearly all of the veterinarians who saw the horses and by dealers who were willing and anxious to buy them.

It was suggested that the quarantine project originated in the mind of a horse dealer in Bremen who found means to impress it on the mind of the

Bremen veterinary inspector. The quarantine was finally lifted (a copy of the publication of the order is herewith inclosed), but not until after the animals had been kept for three weeks in close stalls without exercise and it had been generally advertised that they were diseased. So the owners not only suffered the expense of the extra time, but also the great damage done (and taken advantage of by purchasers) in the prospect of sales.

A shipper recently forwarded American horses to Dresden from Hamburg. The fact that the horses had passed inspection in Hamburg should have been evidence enough that they were healthy; still, the authorities in Dresden had been warned that diseased American horses were to be shipped there.

Since the above-stated quarantine was lifted, a dealer near Frankfort purchased a number of the horses that had been quarantined. He was perfectly satisfied that the animals were healthy; still, the people were warned against diseased horses which were on the way.

There was from the beginning a real prejudice against the importation of American horses, but that was and is largely neutralized by the satisfaction the animals have given, and the fact that the German farmers do not raise horses to any extent for the market, and they consequently do not ask for "protection," as they did in the case of imported cattle. Still, the natural attitude of the people is demonstrated in a clipping which I herewith inclose. It is to be observed that the publication, dated March 28, states that a horse bought in Bremen "eight days before," on March 20, died of a contagious disease and that the horse was presumably an American horse, for the reason, it was said, that eighty-five were recently sold in Bremen. It is to be observed, also, that the American horses were kept in quarantine from March 17 to April 8, and consequently that they were not sold and delivered in the meantime.

Another illustration was given in the case of two sick horses, one of which died at a place in Bremen where one of the first shipments of American horses to Bremen were being stabled. It was said, of course, and the news was well circulated, that the sick horses were recent arrivals from America, but the man who suffered the loss of the horse was a German who never owned an American horse.

The Imperial Government took notice of the importations of American horses and, I am informed, sent an agent to investigate as to the safety of permitting the American horses to come in.

The foregoing is given with a view of pointing out some of the obstacles to this trade, and showing how it may be crippled even to the point of destruction. Enemies to the trade have been active in the endeavor to get the import duty raised on horses.

The difference between the purchase price, with the cost of transportation, insurance, commissions, etc., and the selling price in Germany is not enough to admit of any marked raise in the duty, consequently much of an increase would be prohibition in effect. The argument they use is that the United

States have a higher duty on horses* than Germany, where the charge of $5 per head is all that is made.

If the trade is stopped, it will be by harassing it, as shown above, or by raising the duty.

It must be admitted that some cause is given for a pretext to embarrass the business by the condition the animals sometimes arrive in. It must be remembered that the exclusion of American cattle from Germany was based on a pretext, and the pretext was found in an overloaded shipment of cattle to Hamburg, in which there were several bulls which never should have been shipped.

Shippers are either not acquainted with the proper requirements of horses at sea or they are too eager to make their shipments regardless of the number shipped on one vessel or the manner in which they are stored and provided for, or else they are reckless or they can not help themselves. Vessels are not properly equipped for horses, and there seems to be as yet no regulation to force them to equip, as they must in the shipment of cattle, sheep, and swine.

The history of one case may serve to demonstrate the absence and real need of suitable regulations and laws, as well as to show how reckless or how helpless the shipper may be.

Early last fall, a shipper in the State of Iowa arranged to ship sixty horses at one time. I inspected the vessel the animals were to be shipped on and advised that not more than forty horses should be shipped at one time, and that, if they were placed between decks, they would probably do well. Arrangements were accordingly made with the steamship company for the shipment of forty horses only from New York to Bremen. The shipper arrived in New York two days prior to sailing. He had never shipped horses beyond the ocean and was not acquainted with their requirements at sea. Upon loading his horses in the morning of the day of sailing, he found that thirty-five other horses which had arrived that morning from Chicago were being loaded on the same vessel with his. He protested, but was assured that there was no need for anxiety, seventy-five horses being a moderate number for one ship. The horses had been billed and must be shipped. The vessel had no "between decks" forward. The horses—seventy-five head—were put forward, practically in the hold, together with 15,000 pounds of hay, some straw, 150 bushels of oats, and 2,500 pounds of bran, all in one compartment of about 500 cubic meters. The ship has no portholes in this compartment. There were but four small air funnels, and they were covered in rough weather with canvas. The only way air could reach the animals was through the hatchway, and the space below the opening was entirely occupied with fodder, all of the other space being filled with the horses. A little rough weather was met the second day out, and the hatchway was closed, with the exception of "three boards," and canvas, which became wet, was placed over that space. Sixteen horses smothered to death in one hour, two more died afterwards, and those which lived were badly injured. Insurance rates in Bremen advanced. Horse buyers became more careful about buying until a long time had elapsed, so as to give evidence that the horses had not been hurt at sea. There is always a fear, and it is very well founded, that horses may be overheated during shipment.

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*20 per cent ad valorem.

I took pains to witness the landing of cargoes of horses in Hamburg from the large and very excellent freight steamers of the Hamburg-American Line. These steamers are arranged especially for carrying cattle. Those I saw had too many horses in one compartment; they were placed too close together. Some horses stood in drafts and caught cold, while others did not get sufficient air and were overheated. These ships are said to be perfect for the shipment of horses. They could be made nearly perfect very easily.

All vessels which carry live animals should have means to exhaust the foul air from the compartment the animals are in in such a way that when fresh air comes in there will be no draft produced. If the Government could impose this on all vessels carrying horses, and, at the same time, see to it that none but healthy horses are loaded and that they are properly placed on board, it would be doing not only a most humane thing, but also that which appears to me to be necessary if the exportation of American horses to Germany is to be continued.

GEORGE KEENAN,
Consul.

BREMEN, *April 14, 1896.*

[Translation.]

It is hereby made publicly known that influenza has broken out among the horses brought in by the horse dealer Diedrich Meybohm, No. 50 vor dem Steinthor, and the merchant H. A. Begemann, Osterthorssteinweg 85.

THE BOARD OF HEALTH.

BREMEN, *March 17, 1896.*

[Translation.]

Public notice is given that the influenza which broke out among the horses in the stable of the dealer Begemann, Osterthorssteinweg 85, has ceased.

THE BOARD OF HEALTH.

BREMEN, *April 8, 1896.*

[Translation.]

HONA, *March 28.*—The Landrath of Verden informs us that a horse which Heemsoth, the town chairman of Eitze, bought eight days ago in Bremen, died on the 25th of this month from "contagious thorax affection." Herr M. had advertised in the Honaer weekly paper the sale of eighty-five American horses; consequently, it is to be assumed that the animal which the Eitze chairman bought was also an American horse.

GERMAN RAILWAYS.

In eleven years (1885–1895), the Empire has seen its railways increase from 36,538 kilometers (22,704 miles) to 44,167 kilometers (27,445 miles), an increase of 7,629 kilometers (4,741 miles). In 1885, 30,440 kilometers (18,915 miles) belonged to through or principal lines, with 6,098 kilometers (3,789 miles) branch lines, while in 1895, 31,635 kilometers (19,658 miles) were on through lines and 12,532 kilometers (7,787 miles) on side lines. The total length of rails in 1895 was 77,495 kilometers (48,155 miles), an increase of 17,101 kilometers (10,626 miles) over 1885 and 1,556 kilometers (967 miles) over 1894. There were in 1895, 15,219 kilometers (9,457 miles) of double-track lines and 28,948 kilometers (17,988 miles) of single-track lines, a ratio of 1.9 to 1 in favor of the single-track lines. In 1885, the ratio was 2.4 to 1, hence in the last ten years the double track has found favor. There are 107 kilometers (66 miles) with three tracks and 66 kilometers (41 miles) with four tracks.

The following table shows how each state of the Empire is provided with railways:

State.	To each 100 square kilometers of territory.		To each 10,000 inhabitants.	
	1885.	1895.	1885.	1895.
	Kilometers.	*Kilometers.*	*Kilometers.*	*Kilometers.*
Prussia	6.24	7.61	7.84	8.49
Bavaria	6.62	7.81	9.28	10.32
Saxony	13.83	15.24	6.67	6.14
Würtemberg	7.39	7.95	7.29	7.53
Baden	8.81	10.34	8.44	9.2
Hesse	10.9	12.04	8.71	9.05
Mecklenburg-Schwerin	3.98	7.71	9.36	17.32
Saxe-Weimar	7.77	9.73	8.85	10.44
Mecklenburg-Strelitz	5.41	8.07	15.84	24.06
Oldenburg	5.15	6.85	9.58	12.07
Brunswick	9.33	12.48	9.4	10.7
Saxe-Meiningen	6.58	8.48	7.62	9.03
Saxe-Altenburg	10.52	13.02	8.68	9.66
Saxe-Coburg-Gotha	8.76	13.17	8.64	12.08
Anhalt	10.17	12.5	9.6	9.94
Schwarzburg-Sondershausen	8.74	10.71	10.38	11.91
Schwarzburg-Rudolstadt	2.49	4.44	2.9	4.72
Waldeck	0.89	3.21	1.79	6.2
Reuss (older line)	11.17	11.17	6.56	5.22
Reuss (newer line)	5.82	9.54	4.34	6.18
Schaumburg-Lippe	7.16	7.15	6.7	6
Lippe	2.4	2.41	2.34	2.2
Lübeck	15.75	15.75	6.49	8.71
Bremen	17.56	18.84	2.69	2.53
Hamburg	9.31	9.9	0.7	0.6
Alsace and Lorraine	8.96	10.1	8.43	9.04

The stations of all the German railroads are models of neatness, architectural form, and practicability. In 1885, there were 6,025 stopping places, and in 1895, 8,235, an increase in ten years of 37 per cent. There is a station to every 5.36 kilometers (3.33 miles); in 1885, the average was one to every 6.06 kilometers (3.76 miles). These stopping places consist of 4,059 depots, 2,633 small stations, called "Halte stelle," and 1,543 stopping points, or "Halte pünkte." Dresden is building a new and expensive depot.* The station at Frankfort, one of the finest in the world, excites the wonder and admiration of all who see it; so, too, does the new one at Cologne.

However much one may rail at state ownership of railroads, the public reap a great deal of benefit from them here. Besides giving excellent service, they compel such service from the private lines, for even these are under governmental supervision and control. The passenger rates are reasonable, transportation of freight and packages being much cheaper than with us. Passenger rates run from 8 pfennigs (1.904 cents) for first class, 6 pfennigs (1.428 cents) for second class, 4 pfennigs (0.952 cent) for third class, and 2 pfennigs (0.476 cent) for fourth class, per kilometer (0.621376 mile). These rates are for accommodation trains. For fast trains, the rates are, for first class, 9 pfennigs (2.142 cents); second class, 6.67 pfennigs (1.587 cents); third class, 4.67 pfennigs (1.11 cents) per kilometer, with 25 pounds free baggage, besides luggage carried in the passenger car. Then, there are return tickets, costing, for second class, per kilometer, round trip, 8 pfennigs (1.9 cents); third class, 5 pfennigs (1.19 cents). It may be remarked here that very few people ride first class, especially on the accommodation trains.

Besides these, there are annual tickets, commutation cards, school tickets, etc., at greatly reduced rates. The rates for scholars are so cheap that they seem almost outside the range of belief. They pay for one ticket, for any period less than twelve months, second class, 2 marks (47.6 cents); third class, 1.66 marks (38.84 cents); for a full year, second class, 1.50 marks (35.7 cents); third class, 1 mark (23.8 cents). Besides, there are combination round-trip tickets by which one is able not only to go all over the Empire at most reasonably reduced rates, but to make trips into Italy and other countries on combination tickets similar to those issued by continental tourist agents.

Up to 1885, the sums expended on railways amounted to 9,347,000,000 marks ($2,224,586,000), or 256,333 marks ($61,007) per kilometer; up to 1895, 10,948,000,000 marks ($2,605,624,000), or 247,992 marks ($59,022) per kilometer, an increase in ten years of 1,601,000,000 marks ($381,038,000), or 17.13 per cent, but a reduction in the price per kilometer of 3.25 per cent. This reduction per kilometer is due to the fact that the last ten years has seen a great many cheap branch roads built. The real cost to the owners in 1885 (the real amount of capital consumed) was 9,612,000,000 marks

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* See "New railroad station in Dresden," CONSULAR REPORTS No. 188 (May, 1896), p. 96.

($2,287,656,000), and in 1895, 11,181,000,000 marks ($2,661,078,000), or 253,256 marks ($60,274) per kilometer.

Up to 1885, the capital for the construction or purchase of the State lines (8,758,000,000 marks=$2,084,404,000) was obtained by loans and extraordinary funds, while that for the construction or purchase of the private lines was secured by means of stocks and obligations and floating debt. Up to 1895, the amount expended for the construction or purchase of the State lines was 10,440,000,000 marks ($2,484,720,000) and for the private lines 741,000,000 marks ($176,358,000).

The total income, exclusive of rents, went up from 1,012,300,000 marks ($240,927,400) in 1885 to 1,408,010,000 marks ($335,106,380) in 1895, being an increase of 29.1 per cent, although the increase in the length of rails was only 21 per cent. Of the receipts, passenger and baggage traffic is credited with 26.63 per cent in 1895, against 27.85 per cent in 1885; freight, 67.67 per cent in 1895, against 68.43 per cent in 1885; and miscellaneous receipts, 5.7 per cent in 1895, against 3.72 per cent in 1885.

The income per kilometer of active road, *i. e.*, roads between stations, went up from 27,770 marks ($6,609.30) per kilometer in 1885 to 31,953 marks ($7,604.80), or 15.06 per cent, in 1895. On each 1,000 kilometers, including sidings, etc., it fell from $9,484 in 1885 to $9,063 in 1895, and on each 1,000 wagon axle kilometers, from $24.51 in 1885 to $24.04 in 1895.

The outlay (exclusive of payments for a considerable number of works that were to be finished, extensions, and improvements, also of rents) went up 49.72 per cent—the outlay per kilometer of active road going up from 15,487 marks ($3,685) to 19,182 marks ($4,565), or 23.86 per cent; on each kilometer, including sidings, etc., from 22.23 per cent in 1885 to 22.86 per cent in 1895. On each 1,000 wagon axle kilometers there was an increase of 7.02 per cent. The ratio of expenditures to income was as 55.77 for 1885 to 60.03 for 1895. Under expenditures must be put, for personal expenses, 48.98 per cent in 1895, against 48.37 per cent for 1885. Transportation costs in 1895 were 20.36 per cent; repairs, in 1895, 12.74 per cent, against 14.01 per cent in 1885; maintenance of roads, 10.53 per cent in 1895 and 10.33 per cent in 1885. General expenses, 5.99 per cent in 1895 and 6.04 per cent in 1885.

Exclusive of costs for finishing a considerable number of roads already begun, etc., the excess of earnings over expenditures in 1885 was 447,750,000 marks ($106,564,500); in 1895, 562,740,000 marks ($133,932,120), an increase of 25.68 per cent. After deducting rents, however, the surplus fell from 44.23 to 39.97 per cent. Regarded as rents or profits on the invested capital, the active balance in 1885 was 4.63 per cent, and in 1895, 5.07 per cent, an increase of 0.44 per cent. Each kilometer of lines in active operation brought in, during 1895, 12,771 marks ($3,039), against 12,282 marks ($2,923) in 1885, an increase of 3.98 per cent.

Improvements are constantly going on. Old stations are being enlarged or new ones built or projected and lines are being opened up, double tracked, or extended. Reference has been made to the magnificent station now in course of construction at Dresden; that at Plauen has just been enlarged; Chemnitz is clamoring for another station, increased space, and facilities for handling freights, etc. What is true of Saxony is equally true of Prussia, Bavaria, Baden, and every state in the Empire.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 21, 1895.*

THE IMPERIAL BANK OF GERMANY.

The Reichsbank has existed twenty years; it was founded in 1876. It has done what the Prussian Bank, whose place it took as the central note bank of the Empire, never did and never could have hoped to do. Of the private note banks existing in 1876, there are only seven to-day, and these are all in South Germany. The Imperial Bank has covered the Empire with an almost complete network of branch offices. From 207 in 1876, the number has increased to 276 in 1895. In the last year, 10 new offices were opened. The volume of business has been so great as to be almost beyond belief. In the last year of its existence, the Prussian Bank turned over 17,458,000,000 marks ($4,155,004,000). The Reichsbank turns over 121,213,000,000 marks ($28,884,694,000). A large part is done in circulating notes, a new branch of business, by means of which the methods of making payments all over the Empire were changed. In this way, expenses in moving metals have been avoided. While great progress has been made, the system is by no means so simple or perfect as in the United States. The business in circulating paper went up from 16,711,000,000 marks ($3,977,218,000) in 1876 to 93,698,000,000 marks ($22,300,124,000) in 1895. Aided by the 290,000,000 marks ($69,020,000) standing to the credit of those whose accounts were in its books, consisting of the largest commercial houses and richest private persons, the Imperial Bank supplemented its active capital and avoided discount charges, which, of late, with continually sinking rates of interest, have grown less and less. The value, if not the perfection, of this system is seen in the fact that clearing houses have been opened since 1883 in the most important commercial centers. In 1895, 22,264,000,000 marks ($5,298,832,000), a hitherto unapproached sum, exchanged hands with hardly any transfer of metals.

Perhaps the principal, certainly a very important, task assigned to the Reichsbank was the carrying out in 1871–1873 of the imperial policy which put Germany on a gold basis. Since 1876, the Reichsbank has bought 2,119,000,000 marks' ($504,322,000) worth of gold. Its supply of gold has gone up little by little from an average of 287,000,000 marks ($68,306,000) in 1876 to 705,000,000 marks ($167,780,000) in 1895, so that it can cover at any time from 41.9 per cent to 64.3 per cent of all its circulating notes, although the law requires its supply to be only 33⅓ per cent in German money, including silver, imperial paper, gold bars, or foreign coin. In redeeming its notes, it never insists on making payment in silver, but pays gold.

Great value is being attached to the fact that the Reichsbank is opening a department for storing and controlling bonds and valuable papers. The value of deposits already made in this department went up from 424,000,000 marks ($100,912,000), representing 1,547 kinds of paper, in 1876, to 2,721,000,000 marks ($643,598,000), representing 3,704 kinds, in 1895. From nearly 60,000 depositors, this branch in 1895 made in interest alone 102,000,000 marks ($24,276,000). It has not been so successful in certain lines because of the competition on the part of the various credit-giving institutions against which it has had to compete.

The business in buying exchange paper amounted, in 1876, to 4,122,000,000 marks ($981,536,000); in 1895, to 5,166,000,000 marks ($1,229,508,000), exclusive of foreign exchange, which went up from 17,500,000 marks ($4,165,000) in 1876 to 54,000,000 marks ($12,852,000) in 1895. The Lombard loan went up from 467,000,000 marks ($111,146,000) in 1876 to 1,110,000,000 marks ($264,180,000) in 1895. The business done gratuitously for the Empire more than doubled in the two decades, viz, from 2,070,000,000 marks ($552,660,000) in 1876 to 4,232,000,000 marks ($1,007,216,000) in 1895.

The constitution of the Imperial Bank belongs to the class called mixed. The bank, when founded, was based on 125,000,000 marks ($29,750,000) capital. It is run exclusively by imperial officials, the representatives of shareholders having only a right to counsel. The number of officials has gone up from 1,094 to 1,819. The whole is subject to the Imperial Chancellor, under whom is the Imperial Bank board of directors. Charges have been made that the bank aided only one class against the interests of all others. These charges were not sustained. Business is better, easier, and simpler since the bank came into existence. It has much more to do, however, before it can be said to have solved all of the great problems in the Empire's financial world. The ease and efficiency with which payments may be made in the United States by checks or drafts is here almost, if not entirely, unknown. It costs too much to send money here from city to city, even in the same state. Many men cherish the hope that the time is soon coming when there will be much better means for making speedier payments. Still, the Reichsbank has been a great aid to agriculture, commerce, and manufactures. It has been of incalculable benefit in big transactions.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 12, 1896.*

SAVINGS BANKS OF SAXONY.

In 1895, 1,779,265 deposits, amounting to 165,565,464 marks ($39,404,580), were paid into the savings banks of Saxony, and 1,013,896 demands, amounting to 135,997,655 marks ($32,367,442), were paid out, a monthly average of 148,272 deposits, covering 13,797,122 marks ($3,283,715), and 84,491 demands, covering 11,333,138 marks ($2,697,287).

Deposits and demands for five years.

Year.	Deposits.		Demands.	
	Number.	Amount.	Number.	Amount.
		Marks.		*Marks.*
1891	1,420,429	127,801,973	934,461	124,719,043
1892	1,475,914	133,827,250	989,266	126,399,405
1893	1,541,912	135,804,839	965,446	126,785,049
1894	1,615,040	143,527,010	1,005,909	133,218,420
1895	1,779,265	165,565,464	1,013,896	135,997,655

During the five years, the deposits increased 37,763,491 marks ($9,007,711), or 29.5 per cent, and the demands 11,278,612 marks ($2,684,300), or 9 per cent. It is well, too, to note that in each year the deposits outweighed very considerably the demands, to the following amounts: In 1891, 3,082,930 marks ($733,737); 1892, 7,427,845 marks ($1,767,827); 1893, 9,019,790 marks ($2,146,710); 1894, 10,306,590 marks ($2,452,968); 1895, 29,567,809 marks ($7,037,139).

Another fact is to be considered: The accrued interest is reckoned in with each year's demands, so that, in reality, the people's deposits in the savings banks are very much larger than these figures show. While much of this money made and makes its way to the savings banks, because of the reduced rates of interest prevailing for some time, it must not be forgotten or doubted that much of it is due to increased frugality and intelligence on the part of the people; nor should it be forgotten that all these people have to make weekly, monthly, or quarterly payments to all kinds of sick, insurance, and other funds.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 19, 1896.*

FORESTS OF SAXONY.

This little Kingdom of Saxony, with 14,992 square kilometers of territory, 3,500,000 inhabitants, the busiest mining, manufacturing, textile exporting, and commercial Kingdom in the German Empire, finds time to interest itself in the question of forests and their importance to climatic conditions. Because of the growth of industries, the opening of new railroads, highways, etc., the acreage of woods went down in fifty years from 463,305 square hectares in 1843 to 387,729 square hectares in 1893. Still, they cover 26 per cent of the Kingdom (1,491,250 square hectares), more than the average of the Empire, which is 25.8 per cent. Land lying along rivers, ancient woodland, has been won for food and fodder. Farmers, profiting by the demand for vegetables, hay, etc., have been unable to resist the temptation of turning odd pieces of woodland into more profitable uses, but wise legislation appropriated large sums for the purchase of forests, hence 43.5 per cent of all woods in the Kingdom belong to the State, where it is safe for all time against any encroachment or waste. The lands naturally adapted to woods are the hillsides, the declivities of the mountains, and ravines. These are covered, at points where farming is impossible, even to the very summits of the mountains, with pine, oak, birch, and beech. No soil suited to higher things is ever taken for forests. The success of the system—in fact, of the whole imperial system of forestry protection—is due to scientific study and experiment, backed by intelligent legislation in each state. What would be hard, if not impossible, to accomplish by legislation and control at Berlin, is easy when separate states vie with each other in trying to attain a high condition in its woods and to maintain it.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 17, 1896.*

THE RHINE VINTAGE OF 1895.

The Rhine vintage for 1895 was better than expected in quality and quantity. The cold winter of 1894–95 caused a great many to fear that the vines had been so badly and deeply frozen that the quantity of this year's grape crop, and also the quality of the grapes, and consequently the wine, would be seriously affected. The extreme cold lasted so much longer than usual in the Rhine country that all gave it as their opinion, even as early as last February, that the wine year of 1895 had commenced under very unfavorable conditions. The early grapes (Oesterreicher, Kleinberger, Portugieser, and also the Riesling), in low-lying districts, were undoubtedly greatly affected, causing a very small crop as compared with other years, especially 1893. Even the later to ripen, such as the Burgundy, at Assmannshausen, showed the effect of the extreme and long-protracted cold in the smallness of the crop; but in April the weather came to the rescue and seemed to want to make amends for the bad winter by giving us a few days in the latter part of that month with the thermometer at 75° to 78° F., which had the effect of starting the sap in the lifeless vines and giving hope to the almost despondent wine grower. From thence on the weather was all that could be desired—foggy in May, which had the effect of protecting the vines from the frost; they then commenced to bloom in the second week in June, and were fortunate not to encounter any drawbacks, either by weather or insects, excepting, perhaps, a lack of rain; but, on the whole, there was little to complain of. October continued warm, but foggy, which relieved, to a great extent, the dryness. The berries ripened fast and full, and many persons were heard to say that this would be the best wine year of the century for quality. The grapes were very sweet, and the sweet wine (must) in some districts weighed as much as 96° to 99° Oechsle's wine measurement, but the general average was from 85° to 95° Oechsle, with from 5 to 7 and 8 per cent acidity; but although the wine is of a quality seldom obtained, the quantity is much below the average. In the older and high-lying vineyards, and with the early grapes, such as the Oesterreicher and Kleinberger, the extreme cold of last winter affected them to the extent of bringing this year's wine crop down to about one-fourth to one-third of a full yield.

In some of the older vineyards, there were no grapes at all. The younger vineyards, in choice places, with Reisling-Rebsatz, gave the best results, and especially so in the Rheingau and Middle Moselle districts. All in all, the yield for 1895 will average only one-fifth to one-fourth of a full crop, but what it lacks in quantity it makes up in quality.

It is said that the 1895 wines will compare very favorably with those of that splendid and celebrated year 1868, and even surpass those of 1893—those two years being considered the best of the century. The wine men are enthusiastic when on the subject of quality, and have given this year's wine the title "Jubiläumswein," or "Jubilee wine"—a very nice name, and they say well deserved. The Moselle gave about one-eighth of a crop in the upper district, the middle about a three-fourths crop; lower down and as far as the Rhine, from one-half to five-eighths. Where the peronospora was not taken in hand early, the yield was small and the quality poor, especially in the old vineyards. Riesling vines gave the best results, sometimes a full crop in young vineyards, where the peronospora was properly treated. The Franken, Kleinberger, Gutedel, etc., the so-called soft kinds, gave but little wine in comparison to Riesling, but this was generally the case everywhere.

In the Haardt district proper, Deidesheim, Ruppertsberg, and Forst, a five-eighths crop was secured from young vineyards, the old vineyards, as everywhere else, giving but poor results.

In the lowlands of the Bavarian Palatinate district, where the above-mentioned soft grapes predominate, but little wine was made, which was attributed to the severe frosts of last February.

A general estimate of the wine crops for the last three years from the Rhine and adjoining districts is as follows: In 1895, 39,630,000 gallons; 1894, 74,610,000 gallons; 1893, 100,396,000 gallons.

PERRY BARTHOLOW,
Consul.

MAYENCE, *January 9, 1896.*

PRICES IN GERMANY.

The imperial statistical office at Berlin has recently published a table of wholesale prices in Germany during the past five years, the data for which were furnished by mercantile bodies in all parts of the Empire. The price of each article is computed for the city which is its principal market. In the following table, I have reduced prices, weights, and measures to terms familiar to the American public, and the city is in each case given in parentheses:

Articles.	1891.	1892.	1893.	1894.	1895.
Wheat (Berlin) per bushel	$1.45	$1.16	$0.98	$0.88	$0.92
Rye (Berlin) do	1.28	1.06	.81	.71	.72
Oats (Berlin) do	.57	.51	.54	.45	.42
Indian corn (Bremen) do	.80	.66	.59	.58	.56
Barley (Breslau) do	.78	.75	.79	.62	.59
Flour (Berlin) per 100 pounds	3.37	2.87	2.32	2.05	2.24
Rye flour (Berlin) do	3.14	2.59	1.91	1.67	1.78
Hops, finest (Nuremberg) do	34.98	36.98	51.92	44.62	34.16
Potatoes, table (Berlin) per bushel	.41	.35	.26	.24	.27
Coffee, Rio (Bremen) per 100 pounds	17.16	15.23	17.37	17.16	16.95
Tea, Souchong (Hamburg) do	22.82	22.06	22.28	21.63	21.63
Pepper (Bremen) do	8.54	6.59	6.11	4.97	4.97
Rice (Bremen) do	2.47	2.31	2.09	2.02	1.81
Sugar:					
Raw (Magdeburg) do	3.88	3.97	3.36	2.73	2.29
Refined (Magdeburg) do	6.13	6.23	6.23	5.72	4.87
Raw tobacco (Bremen) do	4.74	5.36	6.35	5.63	4.82
Beef (Berlin) do	12.00	11.67	10.76	11.85	11.86
Veal (Berlin) do	11.02	10.27	10.30	10.72	11.25
Pork (Berlin) do	11.05	11.90	11.79	11.02	9.75
Mutton (Berlin) do	10.64	9.67	8.69	10.44	10.91
Butter (Berlin) do	24.55	25.90	24.28	22.21	21.01
Lard, American (Bremen) do	7.56	8.38	11.15	8.58	7.42
Herrings (Stettin) per barrel	8.45	7.25	5.57	6.34	7.07
Rape-seed oil (Berlin) per 100 pounds	6.51	5.60	5.25	4.63	4.69
Hides, best cattle (Hamburg) do	8.69	7.98	8.64	8.83	11.06
Wool (Berlin) do	29.52	26.82	25.17	23.36	24.13
Cotton (Bremen) do	9.54	8.66	9.51	7.83	7.89
Cotton yarn (Mülhausen) do	46.85	42.25	45.65	41.05	41.85
Raw silk (Crefeld) per pound	4.41	4.22	4.35	3.57	3.79
Raw jute (Hamburg) per 100 pounds	2.70	3.32	2.99	2.93	2.47
Copper, German (Berlin) do	12.92	11.61	10.53	9.77	10.69
Lead (Berlin) do	2.84	2.50	2.29	2.25	2.45
Zinc (Breslau) do	4.86	4.35	3.63	3.24	3.06
Petroleum (Bremen) do	1.36	1.20	1.03	1.05	1.46
Iron:					
German (Breslau)—					
Forge per short ton	10.43	10.57	10.86	10.67	10.44
Foundry do	11.85	11.37	11.35	10.89	10.64
Bessemer do	13.43	12.51	11.25	11.25	11.25
English (Berlin) do	17.52	15.58	16.12	16.47	15.77
Coal (Breslau) do	2.00	1.96	1.93	1.93	1.93
Lump (Dortmund) do	2.49	1.98	1.76	1.94	1.94
English (Berlin) do	4.54	4.58	4.19	3.70	3.66

In connection with the prices of cereals, it should be remarked that these were unusually high in Germany in 1891 and 1892, owing to the crop failure of the former year.

WM. C. DREHER,
Consular Agent.

GUBEN, *March 12, 1896.*

AUER-WELSBACH PATENTS AND MONAZITE IN GERMANY.*

The long-pending litigation over the German patents covering what is known as the Auer von Welsbach incandescent gas-burner terminated on the 7th of November last in a decision by the German patent office which had the outward appearance of a substantial victory for the patentee, but which has led to a situation in this country so anomalous as to claim the interest of not only makers of incandescent gas-burners in other countries, but of producers of monazite, thorite, and other minerals, from which the thoria and other rare oxides used in such manufacture are derived.

The German patents of Dr. Carl Auer von Welsbach, the Viennese inventor of the incandescent gas-burner which bears his name, are four in number, viz: The original patent, No. 39162, of September 23, 1885, and three additional or subsidiary patents, No. 41945, of April 29, 1886; No. 44016, of January 20, 1887; and No. 74745, of August 15, 1891, all of which will, of course, expire with the lapse of the original patent on the 22d of September, 1900.

The brilliant success and widespread adoption of the Auer von Welsbach burners during the past two years, and the enormous profits reaped by the German Gasglühlicht Gesellschaft, at Berlin, which controls the Auer patents in Germany, have started up a swarm of competitors, who have put on the market burners of similar construction at prices which forced the Berlin company several months ago to reduce its retail price from $3.57 to $2.38 per burner. The Berlin company thereupon began suit against these rival makers for infringement of the Auer patents, and, pending the decision, published warnings against the makers and users of the infringing gas-burners.

The decision is elaborate and technical, but its substance may be concisely stated, and is to the effect that the scope of claim 3 in the original patent (which describes the construction of the incandescent mantle, which forms the essential feature of the invention) is restricted so as to cover only the combinations of rare earths which are definitely specified in claims 1 and 3 of the same instrument; and, further, claim 3 of the additional patent No. 41945 is canceled altogether. Now, claim 1 of the original patent specifies certain combinations of oxides for the impregnation of mantles, which render a gas flame incandescent and produce therefrom a white, yellow, or greenish light. The substances named in this clause are magnesia and the oxides of lanthanum, yttrium, and zirconium for white light, to which is added "neodymzircon" to produce a yellow light, and erbium to give the flame a greenish tinge. Neither in clause 1 nor in clause 3 of the original patent is there any mention of thorium oxide (thoria), which, as is well known, forms the principal material in all modern incandescent mantles, the proportion of thoria ranging in some formulæ as high as 98 or even 99 per cent, the remaining ingredient being an oxide of cerium, yttrium, erbium, or zirconium to modify the color of the light produced.

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*For reports on monazite, see CONSULAR REPORTS No. 176 (May, 1895), p. 170; No. 179 (August, 1895), pp. 541-551; No. 181 (October, 1895), p. 241.

This importance of thoria seems to have been realized by Dr. Auer only after long experiment, and its use for the purpose named was covered by claim 3 of his supplemental patent (No. 41945), of April 29, 1886. But in the recent trials, it has been shown that the use of thoria for this purpose was not original with Dr. Auer, and that clause of his patent is therefore annulled, leaving the use of pure thoria open and free to everyone in Germany. But as is generally known, pure thoria produces under such conditions a greenish, ghastly light of no industrial value. In order to give out the white and yellow shades of incandescent light required for ordinary use, it must be combined, as above stated, with other oxides of the cerium-yttrium group. Experts declare that the exact formula by which the Welsbach mantles of the Berlin Gasglühlicht Gesellschaft are actually made is not described or even mentioned in any of the Auer patents, and, as the use of thoria for this purpose is free, they rely upon the fact that thoria, when derived from monazite, usually contains small percentages of cerium and erbium oxides and may therefore be used directly, in its natural condition, for the manufacture of incandescent mantles. As a natural combination of primitive elements can not be patented, it would be very difficult to prove whether the combination of thoria and other oxides used by a rival manufacturer were natural or artificially composed. So confident are many experts of their ability to evade the existing patents that there are now in the field not less than twelve manufacturers of gas-burners more or less similar in type to the Auer. Of these rival makers, seven, including the Meteor Gaslight Continental Company, are located at Berlin, and there are others at Dresden, Munich, Carlsruhe, and other German cities.

These makers, undismayed by the decision of November 7, have pushed the competition vigorously and to the great temporary advantage of the public. The Auer Company, at Berlin, was forced to again reduce its price to 5 marks ($1.19) per burner, while the Meteor Company furnishes burners of apparently identical brilliancy and permanence for $1.10 each, and at these rates the use of incandescent gas-burners is becoming all but universal in Germany. Further litigation is certain to follow, but the power of the original monopoly is apparently broken, and its former exorbitant prices can probably never be reestablished.

THE GERMAN MARKET FOR MONAZITE.

From the American standpoint, one of the most interesting results of this controversy is its influence upon the current demand for monazite—the mineral from which thoria is principally derived, and which, as is generally known, is found in a district comprising several adjoining counties in North and South Carolina. According to Professor Nitze, assistant State geologist of North Carolina, the product of monazite sand in the Carolinas was 65 tons in 1893, 300 tons in 1894, and about 600 tons in 1895, and, as such sand, containing from 60 to 75 per cent of monazite, is worth in Germany from $120 to $130 per ton, the subject is one of definite commercial importance. Thus far, the European market has been largely dominated by the supply of monazite sand from Brazil, where it is found in the form of a fine, washed seashore sand, containing usually only from 2 to 3 per cent of thoria, whereas the Carolina monazite abounds in crystals of all sizes up to that of a grain of wheat, and contains generally from 3 to 6 per cent of thoria. But for the reason that the Brazilian sand is uniformly fine, free from particles of titaniferous iron, and can be put directly into the extracting process without being artificially pulverized, it is preferred by the great Auer-Welsbach companies at Vienna and Berlin. The North American monazite, on the other hand, must first be ground to a fine powder, which, in consequence of the hardness of the crystals, is a somewhat tedious process unless the best machinery is employed. For these reasons, and owing to the fact that large consignments of Brazilian monazite sand have been recently received at Hamburg, the market is now somewhat congested, and the prices offered no longer tempt exporters in the United States. A ton of Brazilian monazite sand, costing at present in Hamburg $119, yields, when well worked out, from 20 to 25 kilograms of pure thoria, which is worth from $2,400 to $3,000, according to degree of purity.

The whole situation confirms the suggestion already made in these reports that the ultimate and effective plan of organizing the monazite industry in our country would be to establish there, at a convenient point in the mining district, a laboratory, where, by employing the most improved and economical methods, the monazite—including the poorer sands which have been concentrated by a process recently perfected—may be worked up, the thoria extracted, and made available as a finished product in all countries where incandescent gas-burners are manufactured.

Thorium oxide is now worth in Germany from $120 to $150 per kilogram (2.2 pounds), according to purity, and the demand is thus far greater than the supply. Most manufacturers of incandescent burners would prefer to buy their supply of thoria ready for use than to conduct a separate laboratory for extracting and preparing it.

The one pertinent question, from an economic standpoint, would be whether the chemicals which are used in extracting thoria can be transported from New York or Baltimore to the Carolina monazite district more cheaply than the crude sand can be brought from there to Europe, where from 96 to

98 per cent of its bulk becomes at the first operation absolute waste material. The chemicals required for this process are neither rare nor costly, and, with a well-chosen site, at which water power may be utilized for pulverizing the raw material, the success of such an enterprise would, in the opinion of competent authorities, be practically assured.

FRANK H. MASON,
Consul-General.

FRANKFORT, *February 8, 1896.*

CENSUS OF GERMANY.

The results of the last census of the German Empire (the census being taken every five years in December) are now made public and have produced some surprise in that, notwithstanding the alleged depression of agriculture and manufactures, the tables show an increase greater than any census since the formation of the Empire.

The population, according to the official figures, is 52,244,503, an increase since December, 1890, of 2,816,027, or 1.14 per cent increase per year. The percentages of the previous censuses was: In 1871–1875, 1 per cent; 1875–1880, 1.14 per cent; 1880–1885, 0.7 per cent; 1885–1890, 1.06 per cent.

A striking illustration is given by a comparison with the figures of the French census. The increase in France for the same period (1890–1895) was but 124,000, an annual average of 0.07 per cent of its population, and Germans see in this proportionally smaller increase a reason for certain classes in France entertaining a less warlike feeling toward Germany, and thereby assuring general European peace.

In 1871, at the foundation of the German Empire, its population was 40,997,000.

The percentage of increase differs vastly in northern and southern Germany. In the former, the annual increase was 1.29 per cent; in the latter, only 0.71 per cent. This must be attributed in a great measure to the highly developed mining industries of the Rhineland and Westphalia, where the soil, besides its hidden mineral wealth, is devoted to agriculture. The southern states—Bavaria, Baden, and Würtemberg—being more mountainous, offer less opportunities for agricultural pursuits and are favored with less natural riches.

It is again noticeable that those provinces which are ultraagrarian show a very favorable increase. It would seem that it is not the peasant, but the great landowner, whose condition is undesirable and that this condition is due less to the present low prices of cereals and the customs-revenue policy of the Government than to the heavily mortgaged estates and lavish style of living which is not in keeping with their revenues.

It has been asserted that the commercial treaties, especially that with Russia, since it greatly reduced the duties on Russian grain, were ruining the agrarian provinces of East and West Prussia, Pomerania, Posen, and Mecklenburg; this is apparently disproved by the census of which this report treats, the figures being more favorable than those of any period since 1880. The annual increase in these provinces has been:

Provinces.	1871–1875.	1875–1880.	1880–1885.	1885–1890.	1890–1895.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
East Prussia	0.46	0.82	0.26	0.01	0.48
West Prussia	0.53	0.91	0.03	0.36	0.84
Pomerania	0.53	1.04	0.45	0.21	0.7
Posen	0.35	1.17	0.14	0.42	0.87
Mecklenburg-Schwerin	0.18	0.82	0.07	0.12	0.64
Mecklenburg-Strelitz	0.34	0.94	0.38	0.08	0.72

The number of marriages, which showed a decrease from the middle of the eighties, has increased since 1892. An unlooked-for increase is shown in the country population.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *April 6, 1896.*

LACK OF INFORMATION IN GERMANY ABOUT THE UNITED STATES—PROPOSED AMERICAN JOURNAL.

Consul-General de Kay, in a dispatch dated Berlin, May 7, 1896, calls attention to the lack of popular information in Germany as to actual conditions and affairs in the United States and the failure of the German press to give the proper attention to them. Germans, he says, have written many books about the United States, and in the body of the people are very many persons who have extraordinary knowledge of our country, its people, and products. But the public does not read books; it is kept informed as to other countries by newspapers. The newspapers of Germany rarely print anything concerning the United States unless it is some highway robbery or other startling crime. In fine, the press, as a whole, shows itself either indifferent or distinctly hostile to the United States. This is all the more surprising when one considers the vast number of Germans who have emigrated to America and now form a very large, respected, and influential portion of the commonwealth.

Among the most prominent causes for this state of things in German journals at present is the dependence of the newspaper press on the British telegraph bureaus, which affect the amount and quality of the news furnished to Germany in accordance with the prejudices of the managers. Up to very recent times, the attitude of the British press and press agencies was one of indifference to all things American, varied by hostility which sometimes concealed itself in superciliousness, but oftener spoke out in the tone of the schoolmaster. Germans very naturally have viewed America and Americans through British spectacles, and, in that way, were bred to contempt of the United States and her people. Things in this respect are a little better than they were; only a little better, however. The old education from English quarters, added to the natural result of trade jealousies, antagonism over tariff questions and so forth, keep the German reading public far from kindly in feeling toward our land.

To better this condition of things, I would respectfully suggest the establishment in Leipsic, Berlin, or Frankfort of a commercial weekly or daily (of course, in the German language), entirely divorced from German or American politics, which should keep the Germans informed as to values of produce and manufactures, customs regulations, and any legislation in Congress and the State legislatures which affects trade or common carriers.

The founding of a German newspaper in a central city like Leipsic, Berlin, or Frankfort is, of course, impossible to a government like ours, and, in any case, would not be advisable. I only want to call the attention of capitalists to the opening that exists in Germany for a live commercial journal, which would steer absolutely clear of politics and devote the greater part of its space to American products, manufactures, and securities. It would have to be conducted by natives of the best sort, in order to command the respect of the rest of the German press; but if properly officered and properly backed by capital, it would soon take and hold a position which none of the native papers seem able to attain. Especially would it be needful to avoid the obtaining of news from the United States through London, where the press agencies that deliver American news to Europe seem unable to avoid impressing a British stamp on everything. Such a weekly or daily must have direct telegraphic connection with American centers like Washington, New York, Boston, Chicago, St. Louis, San Francisco; otherwise, the subjects of real interest will never reach it, because of the ignorance or intentional interference with which news is treated in London. It would find its readers in the great class of commercial men and bankers who are more or less forced by their business to travel and to rise above the ordinary low horizons where everything non-German is considered *ipso facto* of doubtful worth. It should keep bankers and investors in touch by cable with American exchanges, giving at least once a week a very elaborate statement of fluctuations of all American securities good enough to be listed. As it is, through ignorance or malevolence starting either in London or some German center, native holders of American securities are often scared into selling them at a loss through false statements. With an efficient corps of German correspondents in our great cities, such a paper could instantly trace to their source fictitious stories about the dangers of our products or manufactures, with which the German press now regales its readers unrebuked.

AUSTRIA-HUNGARY: TRADE WITH THE UNITED STATES: GENERAL COMMERCE AND MANUFACTURES.

INCREASED EXPORTS TO THE UNITED STATES.

The values of declared exports to the United States from the consular district of Vienna and agencies at Brunn and Innsbruck during the calendar year ending December 31, 1895, show an increase of about $600,000 over the year 1894. This is due to better business conditions in the United States and not to any radical change in this country.

The increase in the value of the amount exported has been caused almost entirely by larger exports of the following articles:

Articles.	1894.	1895.	Increase.
Argols	$24,214.54	$55,614.59	$31,400.05
Buttons	162,058.18	320,986.95	158,928.77
Cloth and woolen goods	69,472.02	170,635.28	101,163.26
Drugs and chemicals	89,340.97	178,960.93	89,619.96
Fans	132,100.86	171,250.50	39,149.64
Glassware	77,746.04	127,009.91	49,263.87
Gloves	46,545.37	105,189.67	58,644.30
Silk goods	143,316.10	207,038.84	63,722.74
Umbrella fixtures and sticks	104,666.14	144,416.72	39,750.58

AUSTRIAN BUSINESS METHODS.

It seems strange that the business relations between the United States and this Empire are so small, but the causes are obvious to those acquainted with Austrian business methods. German merchants are crowding the Austrians out in nearly every line. Labor is cheaper than, or fully as cheap as, in Germany, and yet the manufacturers in Austria are actually selling less to the United States from year to year, and there seems to me to be no prospect that this state of affairs will change in the near future.

Theoretically, the business man here is well equipped, but he often lacks practical ability, and although one may find in some lines as good representatives as anywhere in the world, yet there is a general lack of push and energy.

The business methods are very different from those pursued in the United States. It is seldom that an Austrian merchant will risk a florin unless he is practically guarantied beforehand a profit on his investment.

In some lines, where style is everything, American merchants who come to this market complain that, year in and year out, they are shown the same articles and nothing new, and that, in consequence, they are compelled to buy every year less and less.

The same lethargy is shown in every walk of life, excepting the fine arts, science, and music. Very little encouragement is given to industry or trade;

on the contrary, it would seem as if all possible obstacles were thrown in the way of increasing business.

I have an instance in mind where a large American firm came to Vienna and opened a branch house. The difficulties the manager had to overcome were beyond all reason; for instance, his letters were refused him for ten weeks because the firm he represented was not registered. He said that if he had anticipated a quarter of the trouble, he would never have chosen Vienna as his European depot. Being established, he tried to overcome the difficulties, but finally had to give up and change his quarters to Hamburg.

An inquiry made by this office of different paper mills as to the price of paper for newspaper purposes, was met in one instance by the counter query, What do you wish to know for? and in another, that it was a trade secret; many weeks have passed and I am still without a reply.

The difficulties against which American life insurance companies have to contend are very great. The home companies are trying in every way possible to oust them. Whether the Government here will finally lend itself to such discrimination, remains to be seen.

MAX JUDD,
Consul-General.

VIENNA, *January 24, 1896.*

SUGGESTIONS FOR DEVELOPING TRADE WITH AUSTRIA-HUNGARY.

The efforts of United States manufacturers and merchants to secure a market here for their goods would be greatly aided by the cooperation and counsel of commercial bodies. I have for some time given this matter serious thought, and have been in a quandary how, and in what way, to best promote our interests, as many difficulties must be overcome, owing to our American trade habits. I am inundated with circulars and catalogues sent to me for the purpose of distribution and letters asking for information (which would cost many dollars out of my own pocket to secure) to aid in working up their trade or introducing goods. Such advertisements in English are simply thrown in the waste basket, and it is sheer loss to spend hundreds of dollars in the printing. They do not rely here, any more than in most other foreign countries, upon advertisements relative to something they have never seen or of which they know nothing. They want something that they can see and handle. If our firms persist in sending such printed matter, it should be in either the Hungarian or the German language.

The European system is entirely different from ours. European merchants either open branch houses here for the introduction of their goods or they send their goods on consignment to responsible firms or persons already established here, and have their efficient drummers, who come in hordes as regularly as clockwork and invest every hamlet. This is especially true of the Germans, who are pushing their trade in a sensible manner into every quarter of the globe, and are making the English "hustle."

I believe there is hardly any other country that can boast of having made such rapid progress in establishing industries, trade, and art, in such a short time (since 1875), as Hungary. Rich natural resources and well-developed agriculture are the most important causes of this progress. With each year there are new industries started, and yet, they still export raw materials, and the imports of manufactured goods are worth millions of florins, as the exports and imports for the years 1890 and 1894 will show:

Year.	Exports.		Imports.	
	Florins		*Florins.*	
1890	530,000,000	$214,650,000	405,000,000	$164,025,000
1894	562,000,000	227,610,000	546,000,000	221,130,000

The business relations with the Balkan states are well developed, the Hungarians not only exporting their own goods, but also doing the jobbing business for the western states, this being a matter of great importance, considering the great demand of these states.

As is natural, Germany, France, Austria, and England took advantage of this new field at the earliest stage of its industrial development, while charging exorbitant prices for the finished machinery.

At present, the local manufacturers are engaged only in making the most indispensable machinery which is used in agriculture and the outfittings of other factories. There are no manufacturers of specialty machines and articles, these being imported from Germany, Austria, and England. It is not necessary to mention that our practical American machinery could be successfully introduced into this country, considering the increasing demand in wages and establishment of new industries. Last year, factories employing 7,000 workmen, with a capital of 25,000,000 florins ($10,125,000) were started. It would take too much space to enumerate all the articles that could be introduced here. The following are the amounts taken from the annual report book of the Museum of Commerce:

The general import of machines, iron and metal goods, and other articles of machinery was, in 1894, 1,970,000 meter centners (217,053 tons), valued at 59,000,000 florins ($23,895,000), and in 1895, 2,300,000 meter centners, valued at 68,000,000 florins ($27,540,000), showing an increase of 11,000,000 florins ($4,455,000) in one year. England sent 5,500,000 florins' ($2,227,500) worth, and the United States 600,000 florins' ($243,000) worth, which shows that the United States took the least trouble to introduce their goods, although the latter command the confidence of the public to a greater degree than either the Germans or the English.

In the electric line, there is a great deal to be done yet; there are important water powers which could be utilized for electrical purposes. Although the first and safest underground trolley system was put in successful operation here (electricity being, comparatively, more generally used here than in any other country), yet the dynamos, machines, and other electrical supplies are partly imported from England and Germany, there being only one firm here manufacturing these articles, for which they charge enormous prices, though the goods are as clumsy as possible.

The following list of articles, I believe, would find a ready market in this country: Bakers' machines, barbers' chairs, folding beds, bicycles and bicycle supplies, boiler injectors, bookbinding machinery, brewers' machinery, brick machinery, building felt, carpet sweepers and stretchers, cash carriers and cash registers, celluloid goods and clutches, corn-cob grinders, corn huskers, elevators, gasoline stoves, hard-rubber goods, hardware specialties, journal-bearing alarms, locks, metal novelties, mining-machine pumps, photo-engraving apparatus, power transmitting machines, pulleys (wood), railroad supplies and equipments, sawmill machinery, steam separators, typesetting machines, wood-working machines, washing machines, electric supplies and all kinds of electric machines, especially those of the latest invention.

I have used my best endeavors to further every interest of our manufacturers and merchants, but efforts of the sort described on the part of our merchants to get a business foothold here seem to me to be doomed to failure, and hence I have determined to make a modest beginning on other lines, and am ready to do all in my power, provided I have the support of business men in the United States who will avail themselves of the opportunities which might thus be gained for developing trade. I have consulted with people of intelligence and enterprise here who are willing to cooperate by taking the agency or representation for the sale of American wares in Austria-Hungary and the Balkan states. It might be practicable to establish a warehouse here, in the larger sense of the word, or at first a sample room, in which samples of American manufactures could be exhibited, the exhibitors paying their pro rata share of expenses.

In the meantime, I would be glad to receive suggestions from firms, individuals, or corporations in the United States who are interested in Austro-Hungarian trade and are willing to conform to European business methods.

EDWARD P. T. HAMMOND,
Consul.

BUDAPEST, *April 11, 1896.*

COMMERCE AND INDUSTRIES OF AUSTRIA-HUNGARY.*

STAVE EXPORTS.

The shipments of oak staves from Croatia, Slavonia, and Bosnia via Fiume and Trieste to western foreign ports amounted, in the month of October, to 2,400,000, against 5,610,000, in October, 1894, of which 1,850,000 were shipped to France, against 5,300,000 in 1894.

The total export during the ten months ending October 30, 1895, amounted to 28,110,000, against 48,560,000 in the same period in 1894, of which

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*** Reports by Consul Hammond, of Budapest, December 9, 1895, to January 21, 1896.**

25,260,000 went to France, against 45,260,000 in 1894, and 2,240,000 to Italy, against 2,830,000 in 1894. The unfavorable conditions of trade caused the decrease to the most important market, viz, France, which is the more remarkable, as the wine production of that country increases from year to year, and hence must arise an increased demand for staves. The only explanation given is the competition of American staves, which will, undoubtedly, control the French market if vigorously and properly pushed. The decrease this year is felt very keenly in Austria-Hungary, as there have been exported by sea in former years, from January to October, the following quantities: In 1893, 45,900,000; in 1894, 45,260,000. The present year (1895) shows, therefore, a decrease of export of about 20,000,000 staves.

French statistics deal with staves imported into France under two heads, viz, oak staves (merrains de chêne) and other staves (autres que de chêne.) Of the first mentioned, there were imported in the eleven months ending November 30, 1894 and 1895:

From—	1894.	1895.
	Quintals.	*Quintals.*
Belgium	4,041	1,979
Hungary	1,184,042	687,589
United States	236,311	173,316
Russia, etc	265,153	163,995
Total	1,689,547	1,026,879

The decrease, therefore, amounts to 622,688 quintals, or 36 per cent. The value, according to French estimates, amounted to $6,523,400 in 1894 and $3,966,500 in 1895, a decrease of $2,566,900.

Of other staves, there were imported:

From—	1894.	1895.
	Quintals.	*Quintals.*
Germany	159	534
Austria-Hungary	4,157	12,171
Other places	956	1,013
Total	5,272	13,718

The value of these latter staves has increased from $11,001 to $29,106. While there is an import duty to be paid on staves in France, the Hungarian staves seem to have the preference, on account, it is said, of their quality. If our exporters in the United States look after this market, there is a wide field for their energy, as I have in former reports shown that American competition has already been felt, to some extent, in the Hungarian industry.

SUGAR TRADE.

I am able to give the following information and data concerning the sugar trade of the two Austro-Hungarian ports of Trieste and Fiume for the year

1895. The shipments by railway of sugar of every description amounted, in the year 1895, to 928,700 meter centners,* of which 768,300 meter centners came from Austria and 159,400 meter centners came from Hungarian railway stations. The export shows the following quantities:

Exported to—	1895.	1894.	1893.
By land.	*Meter cent.*	*Meter cent.*	*Meter cent.*
Different countries	11,300	11,000	13,600
By sea.			
Turkey (Constantinople, Salonica, Smyrna, Degeaghatch, Jaffa, Beirut, etc.)	478,500	559,200	436,300
Greece and the Ionian Isles	62,500	68,300	62,300
Italian ports	22,400	80,500	38,900
Egypt	23,100	23,500	15,800
Bulgaria (Varna)	16,600	32,600	30,100
Roumania	4,100	4,200	3,700
Gibraltar	7,700	14,000	14,000
Tripoli (Tunis)	27,100	31,000	24,300
East India	4,800	800	20,100
Montenegro	1,000	1,200	800
Malta, Massowah, Aden, and Zanzibar	25,500	26,000	27,100
England	2,100	....	36,700
Total	686,700	852,400	784,800
Total in pounds	151,389,882	188,920,104	173,017,008

I have no exact statistical data about the total trade of Fiume, and am only able to mention the shipments of sugar to the western foreign countries. The shipments via Fiume in 1895 were as follows: To Italy, 146,100 meter centners; Great Britain and Gibraltar, 7,260 meter centners; Malta and Tunis, 6,800 meter centners. These shipments form a considerable part of the total export of the Monarchy, so much the more as the shipments by Fiume to the Levant, etc., show a continual and considerable increase.

The Hungarian Government has built a fine harbor and works at Fiume, and all its energies are concentrated hereupon in rivalry to the Austrian port of Trieste.

HUNGARIAN FLOUR EXPORTS.

Reduced export tariff.—The Hungarian Minister of Commerce has made a specially reduced rate for the flour export via Fiume. The freight rate for flour exported via Fiume amounts to 50 kreutzers (20 cents) per meter centner for the Budapest mills, without regard to the total quantity. The only condition made, is that the flour is to be shipped from Fiume. The tariff took effect on the 1st of January, 1896.

The Minister of Commerce endeavors by his decision to keep up the flour trade to its previous normal condition, which had latterly somewhat slackened, owing to American competition, as shown by my previous reports upon the varying conditions of the trade.

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* 1 meter centner=220.46 pounds.

The disparity, however, between the mills of Budapest, and the provincial mills will be heavily felt by the different establishments in the country. There are about one hundred and twenty mills scattered over the country in close proximity to the centers of the wheat-growing districts, and this proximity has the advantage of educating the farmer as to the needs of the miller, and, at the same time, secures the grower a ready market for his produce, while there are only about fourteen large, first-class flouring mills at Budapest.

Flour exports to Brazil.—The shipments of flour by Fiume and Trieste to Brazil amounted in the month of October, 1895, to 9,987 barrels, against 9,390 barrels in October, 1894, of which 6,897 barrels were produced in Hungarian mills, against 7,114 barrels in October, 1894. From January 1 to October 30, 1895, the export was as follows:

Description.	1895.	1894.
	Barrels.	*Barrels.*
Hungarian	81,887	76,566
Austrian	22,422	18,214
Total	104,309	94,780

It is seen by this statement that the export of Austrian flour remains stationary, while the export of Hungarian flour from the Budapest mills has increased.

Flour trade of Trieste.—According to official statistics, the flour trade of Trieste was as follows during the years noted:

Years.	Imported by land.	Exported by sea.
	Meter cent.	*Meter cent.*
1890	319,760	493,628
1891	345,191	438,520
1892	394,144	366,823
1893	383,502	367,918
1894	360,915	336,653

The average import by land for the last five years amounted to 360,702 meter centners (79,520,362 pounds), and the exports by sea to 400,708 meter centners (88,340,087 pounds). There is very little change in the import trade, while the exports seem to be falling off, in consequence of the reduced production of the Trieste mills.

The Hungarian mill industry (especially Budapest), participates in the Trieste trade, while the import from the Austrian countries (Görz, Laibach, Marburg, Wiener-Neustadt, Vienna, and the other central points of mills) is not as lively as formerly.

The sea export of Trieste, in which the Hungarian mills are interested in a prominent manner, is principally directed to the coasts (Istria and Dalmatia), to England, Turkey, East India, Egypt, the East African colonies, Brazil, and Italy. There is a demand for middling grades for the inland, while foreign countries demand white flour.

The following data show the exports by sea from Trieste:

Exported to—	1894.	1893.
	Meter cent.	*Meter cent.*
Austro-Hungarian ports	241,208	244,254
Italy	4,452	5,782
Malta and Tunis	561	312
France	1,248	3,371
England	42,138	48,221
Hamburg	514	3,489
Brazil	14,234	21,543
Argentine Republic and Uruguay	41	20
Montenegro	357	125
European Turkey	10,638	17,789
Asiatic Turkey	521	432
Greece	1,843	1,016
Cypress	269	276
Egypt	4,061	4,221
Aden	1,314	1,538
Massowah	46	118
Zanzibar	2,292	2,483
Mozambique	423	321
Madagascar	52	19
East India:		
English colonies	1,387	1,669
Dutch colonies	9,047	11,818

JUTE IMPORTS.

The importation of jute by the two principal ports of the Austro-Hungarian Monarchy has increased considerably during the last few years on account of the cheapness of freight. Formerly, the jute inland shipments went principally by the ports of the North Sea, and only in the last few years have they been shipped by Fiume.

With the exception of the Bohemian jute factories, which use the old route by Bremen and Hamburg, in spite of the reduced freights by rail, all the larger establishments (such as the factories in Newpest, Floridsdorf, and Simmering, the first Austrian jute spinning and weaving mills, and the first Hungarian jute-spinning mill in Lajtaujfalu, the jute-spinning mill in Troppau, etc.) are shipping their goods exclusively by Fiume. The imports by sea in the last three years can be seen by the following data:

Imported at—	1894.	1893.	1892.
	Meter cent.	*Meter cent.*	*Meter cent.*
Fiume	219,897	144,226	67,125
Trieste	44,251	17,546	20,308
Total	264,148	161,772	87,433

It will be seen that the imports of jute by Fiume and Trieste have trebled in the last three years. The quantities imported at Trieste have been mostly reshipped by sea to Fiume.

The raw jute is imported in pressed bales from Calcutta. The import lasts from October to March. The transportation is done by direct steamers at the rate of 18s. to 21s. per ton. Last year, the Austrian Lloyd Steamship Company participated in the transportation, but its service did not prove satisfactory, as there arrived many loose and damaged bales, due to frequent transshipments; the Lloyd will, however, remedy this drawback by putting on direct steamers

HOG EXPORTS TO GERMANY.

The hog cholera, which has appeared in the different states, has caused a great fluctuation in the hog market. The returns of the trade have decreased many millions of florins, as will be seen by the following data.

Germany has imported from Austria-Hungary, against an import duty of 5 marks, the following number of hogs during the period January to August, 1894 and 1895:

Month.	1894.	1895.
	Number.	*Number.*
January	48,525	37,529
February	33,332	25,025
March	25,568	18,934
April	20,688	6,845
May	16,381	6,903
June	18,916	145
July	15,846	262
August	35,892	280
Total	215,848	95,924

The hog imports of Germany from Austria-Hungary have decreased about 55 per cent. This decrease was due to quarantine restrictions. Germany rates hogs at an average of 114 marks ($28) each. According to this valuation, the imports during the eight months of 1894 amounted to 24,606,672 marks, but only 10,935,336 marks during the same period of 1895, a falling off of 51 per cent. While the import of Germany was kept up during the spring months in some measure, the trade came to an absolute standstill in the summer months. On account of the cholera, there will be no export of any consequence before the end of the year.

HORNED-CATTLE EXPORTS.

The balance of trade against Austria-Hungary is much larger this year than last, owing to the decrease of exports in horned cattle, in quality as well as in quantity. The decrease of exports is partly caused by difficulties of import and partly by total prohibition of import, as, for instance, from

Switzerland. During the first ten months of 1894 and 1895 the exports of horned cattle were:

Kinds.	1894.	1895.	Decrease.
	Head.	*Head.*	*Head.*
Oxen	73,551	48,130	25,421
Bulls	11,346	5,532	5,814
Cows	64,550	43,770	20,780
Calves	15,287	11,233	4,049
Cattle for draft	30,362	25,043	5,319
Total	195,096	133,718	61,383

The year 1895 shows, therefore, a decrease of 61,383 head, or 31 per cent.

EXPORT OF HUNGARIAN HORSES TO EAST INDIA.

The East Indian agency of the Hungarian Museum of Commerce has sent a number of trotters to Bombay, where they arrived in fine condition and found a ready market. A fine lot of five horses, with the typical Hungarian harness, driven by a Hungarian coachman, produced a great impression. The good quality of the Hungarian horses seems to be acknowledged in India, and as it is proven that they can stand the tropical climate, further shipments will take place in the near future. As the climate of Hungary is similar to our Middle States and some other portions of our country, a market can as readily be found by our own exporters as has been found by Hungary.

CANE VS. BEET-ROOT SUGAR.

In consequence of the stoppage of trade on the Elbe, large quantities of sugar will be shipped by Fiume. Glasgow, London, Liverpool, and New York have already bought considerable quantities. The first shipment of 5,602 meter centners (1,235,016 pounds) left yesterday by the *Kálmán Király* for Greenock. The Viennese Association of Sugar Merchants makes the following announcement:

> The insurrection in Cuba makes the cutting of the sugar cane an impossibility; the workmen have fled and dispersed on all sides, the management has stopped work, and most of the sugar-cane fields have been burnt.

GOLD PRODUCTION OF TRANSYLVANIA.

The gold production of the Rudaer works of Transylvania, in Hungary, amounted in the month of November to 46,054 grams of unrefined, against 52,164 grams in the month of October of this year and 50,072 grams in November, 1894.

NAPHTHA JOINT-STOCK COMPANY.

The paid-up capital of the Austrian Naphtha Import Joint-Stock Company, newly formed, is 150,000 florins, divided into thirty shares of 5,000 florins each, fully paid up in the name of the owner. The capital can be increased to 600,000 florins.

AUSTRIAN SCYTHE INDUSTRY.

At the general meeting of the Central Union of Austrian Scythe Manufacturers, the following statements were made concerning the results of the trade for the year:

Hardly any surplus stock was left in the factories, as they were all fully employed and all old stock was cleared out. There was not a good sale everywhere among the buyers, but, on the whole, there is not much surplus stock among the majority of the wholesale dealers. As to the retail trade, reliable information is still wanting. We can not, therefore, at present form a decided opinion regarding the total sale of scythes for the year. If we consider the various markets more in detail, we find that the reports which we receive from Russia—that great market for scythes*—are somewhat contradictory. It is maintained on the one hand that in various districts there has not been a good sale, as, for instance, in the western and Baltic provinces, chiefly on account of the failure of the grass crop; in the Volga district, also, especially on the Moscow market, the sale left much to be desired. On the other hand, the sale in Siberia and in eastern and northern Russia is said to have been tolerably good. The latest accounts have not yet been received, and the fair of Nijni-Novgorod will determine the matter, especially as far as the markets of eastern Russia and Siberia are concerned. On the whole, it is supposed that the Russian demand will not be so large as last year, but probably not much smaller, as, notwithstanding the unfavorable accounts, there are many good signs, several factories having already made arrangements for next year at higher prices.

As regards the markets in Roumania and the East, trade was very bad last year. In consequence of the unusually severe and widespread agricultural crisis in the Balkan countries, the rural population could not well afford to buy. These circumstances led to numerous failures in the mercantile world, whereby many factories were seriously affected. It is said, however, that the sale in these districts has been better this year. The accounts from Hungary are likewise contradictory, but, as far as can be ascertained, the Hungarian harvest has been fairly successful and the merchants have sold pretty well, although some Budapest wholesale dealers complain of the scythe business and intend to relinquish it. It is supposed that next year will be a normal one—that is to say, that, judging from all appearances, it will probably not be a bad year.

The Austrian consul at Kiev, in a recent report to his Government on the same subject, made the following remarks:

Berdyczev, a provincial center in the government of Kiev, is especially the chief market for scythes in this district; Rylsk, in the government of Kursk, which is also an important market, and Kiev could not obtain a sufficient number of scythes from Austria. The competition of Germany in these commodities is very slight. It would be well to pay some attention to the manner in which the sale of scythes from the smaller Austrian factories is at present carried on in this district, as it is not very advantageous for interested parties at home. Every year, in September and October, a number of dealers from this district, especially from Berdyczev, and also from Wilna and Minsk, go to Austria and buy the scythes there from the various makers and ironmasters, to whom they make advances for their estimated total manufacture for the winter. They afterwards sell these scythes here at very high profits. A very considerable part of this profit might remain in Austrian hands if the Austrian manufacturers would send travelers to this district to call on the customers.

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* According to another report of this union, the export of scythes to Russia amounts to 70 per cent of Austria's total export of this article.

MANUFACTURE OF SCYTHES.

The Reichsgesetzblatt publishes the following order of the Ministry of Commerce of July 15, 1895, concerning the obligatory marking of scythes, sickles, and chaff knives. According to the act of January 6, 1890, concerning trade-marks, it is prescribed:

(1) Scythes, sickles, and chaff knives in a finished or unfinished state must not be placed upon the market (*i. e.*, they must not leave the places where they are produced and kept in stock) before they have been provided with a registered mark according to the act of January 6, 1890, under the following conditions:

(2) Every scythe, sickle, and chaff knife must be provided with one trade-mark only, which must be registered for the business in which this article was produced, and with which it is then intended to be put on the market.

(3) This trade-mark is to be struck or stamped upon the article when in a red-hot state, with a distinctness which obviates the necessity of any further mark, in the size usual in the scythe, sickle, and chaff-knife industry and on that part of the article usual in the market for which the article is destined.

(4) The names, signatures, arms, medals, factory, or guild marks and marks of quality are to be struck or stamped upon the goods in the same way as the registered trade-mark.

(5) Besides the trade-mark struck or stamped according to law, labels, inscriptions, and other make-up on scythes, sickles, and chaff knives are only allowed when the trade-mark is not thereby hidden and the origin of the article or place of production not concealed from the buyer.

(6) This order goes into effect six months after the day of its publication.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *October 8, 1895.*

CURRENCY OF AUSTRIA-HUNGARY.

On March 20, 1896, the Department addressed the following instruction to Consul-General Judd:

> Notwithstanding the fact that the gold crown is the monetary unit of Austria-Hungary, the reports received from our consuls in that Empire give money values in florins. The Department has estimated the value of the florin at 40.2 cents, basing this estimate on valuations made some time ago. You are requested to explain this conflict of money units and define the value of the florin still used in commercial computations. Is it the gold or the silver florin? If the latter, it must fluctuate with the rise and fall in the value of silver. The Department desires to be fully informed on this point.

CONSUL-GENERAL JUDD'S REPORT.

I have the honor to reply to Department's instruction dated March 20, 1896.

The history of the Austro-Hungarian currency is a very complicated one. Up to the year 1879, Austria-Hungary had a currency based exclusively on silver; from 1 kilogram (2.2046 pounds) of standard fineness, 90 silver florins or gulden were coined. In the month of October, 1879, the Government found it necessary to stop the free coinage of silver, which had existed up to that time; although silver remained the legal tender, the paper gulden formed the basis of currency. From that time, the paper gulden ceased to fluctuate with the fall or rise of silver, the paper money becoming, in fact, a more stable measurer of values than the white metal. This was brought about by the stoppage of the free coinage of silver.

As a further effect of this same measure, it was soon observed that the paper gulden attained a decidedly higher purchasing power than the amount of silver expressed by that very paper gulden. In consequence of this complexity, the Government decided to place the currency on a gold basis, and a law was enacted to this effect on August 2, 1892, which law was promulgated in Reichsgesetzblatt No. 126.*

At present, the gold crown is the legal monetary unit of Austria-Hungary (2 crowns are equal to 1 florin or gulden), and still all commercial transactions in this Monarchy are carried on in the old denomination of Austrian money called gulden or florin, with this great difference, that the gulden or florin, as constituted at present, represents in value about 16 per cent less than the supposed old gold gulden did.

The old gold gulden represented in value 48.67 cents (United States money); the present gulden or florin, which is equal to 2 crowns, represents 40.5 cents (United States).

At present, the fall or rise of the price of silver does not affect the Austrian currency, since it was placed on a gold basis in 1892.

A commission representing the different interests of the countries was appointed by Austria-Hungary to bring about this new monetary system. The difficulty that presented itself to the members of this commission was in fixing and establishing the gold value of the then circulating paper gulden. The real value of a paper gulden at the time the conversion took place was about 45 cents (American). Some members of this commission were in favor of giving the gulden the same gold-purchasing power; others, mainly those interested in agricultural products, insisted that, since silver was the legal tender in Austria-Hungary, the Government was liable only for the gold value contained in a silver gulden, and this represented at that time about 35 cents (American), and therefore the paper florin should have a gold value of 35 cents.

After a long and tedious discussion, the commission agreed on a compromise, which was sanctioned by the Reichsrath, by fixing the gold value of the then circulating guldens, whether in paper or silver, at about 40.5 cents (American), as stated before, and a new gold unit was created, called "crown." A crown represents 100 hellers, and 200 hellers, or 2 crowns, equal 1 florin or gulden.

The following parity was established: One paper gulden or florin equals 2 gold crowns (2.10 francs; 1.70 marks)—gold being at present about one-fourth of 1 per cent premium, this margin would have to be added to the currency to obtain French or German exchange; 120.08 gulden, or 240.16 gold crowns, are equal to £10 in English exchange.

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* For this law, see CONSULAR REPORTS No. 147 (December, 1892), p. 623.

The Austro-Hungarian Monarchy has thus legally placed its currency on a gold basis without having, as yet, assumed gold payments. In the interval, paper and silver gulden serve as mediums for exchange.

Preparatory measures have been adopted by the Government in order to bring about the conversion, and a stock of gold amounting to $125,000,000 has been accumulated. The Government issued 4 per cent gold-bearing bonds, which were taken up mostly by money centers outside of the Monarchy. The proceeds of the sale of these bonds constitute the abovementioned gold stock. This amount of gold is to cover the 312,000,000 gulden outstanding Government currency.

The gold has all been coined into 10-crown and 20-crown pieces and is ready for use, though the Government is unwilling to set a certain date for specie (gold) payments.

The export trade of this country has been rather light of late years, the balance of trade being against it, and such balances are settled in gold.

The present political outlook in Europe is not a very favorable one, and gold, if given out, might take wings if the smallest war cloud should arise on the horizon. Should this country have a year of good export trade, with a corresponding balance of trade in its favor, it would materially assist the Government in assuming gold payments.

The following currency circulates here at the present time: One heller (copper), 100 equaling 1 crown; 1 kreutzer (copper), 100 equaling 1 gulden or florin; 2-heller piece (copper), 50 equaling 1 silver crown; 10-heller piece (nickel), 10 equaling 1 silver crown; 20-heller piece (nickel), 5 equaling 1 silver crown; 1 crown (silver), equaling 100 hellers; 1 florin or gulden (silver), equaling 2 crowns; paper money in 5, 10, 50, 100, and 1,000 gulden each.

In connection with this matter, I beg leave to mention that the Russian Empire is at present actively engaged in placing its currency on a gold basis. It is reported that the Government has already accumulated 750,000,000 rubles in gold. The mode of conversion is analogous to the one adopted by the Austro-Hungarian Government. One hundred new gold rubles are to be equal in value to 216 marks in German currency; such 100 rubles will be worth $51 in United States money.

Prof. W. Lexis, of Göttingen, has a very interesting letter on this subject in the Neue Freie Presse of the 22d instant. He therein says that Russia is the first large commercial country that, in the plan of conversion of its currency, will adopt a new relation of value between gold and silver, namely, as 1 to 21, and that the Russian Government will bring this about by increasing the fineness of its silver coins.

Thus, both Russia and Austria-Hungary have adopted a much smaller monetary gold unit than they formerly had.

MAX JUDD,
Consul-General.

VIENNA, *April 27, 1896.*

SERVIA: DECLINE OF WINE INDUSTRY—WHEAT CROP OF 1895.

According to published statistical statements, the cultivation of the vine in Servia shows a considerable decrease. In the year 1889, the area of the vineyards amounted to 43,000 hectares (106,253 acres), with a production of 832,338 hectoliters (21,988,279 gallons), which represented a sum of over 19,000,000 francs ($3,667,000). In the year 1892, the phylloxera had already destroyed over 11,000 hectares (27,181 acres) and, as no preventive measures were taken to check its ravages, it progressed rapidly from year to year, until at the present time over 20,000 hectares (49,420 acres) of the former vineyards have been abandoned as totally unproductive. The renowned grape of Negatin and Semendria has become extinct. Servia, besides her own consumption, used to export about 1,500,000 francs' worth of wine, but she now has to import more than double that amount to cover home consumption. The replanting of the destroyed vineyards with American vines has been very much neglected, and in the whole of Servia there has scarcely been more than 40 hectares (98.8 acres) regained for the cultivation of the vine.

The cultivated area in Servia was about 25 per cent larger in the year 1895 than in 1894. In wheat, about 400,000 hectares (988,400 acres) were sown, against 320,000 hectares (790,720 acres) in 1894; in barley, 70,000 hectares (172,970 acres) were sown. The wheat harvest amounts to 2,400,000 meter centners (8,816,733 bushels) and barley to 350,000 meter centners (1,679,587 bushels). It is estimated that after the supply for home consumption there will remain for export about 700,000 meter centners, against 600,000 meter centners in the preceding year.

EDWARD P. T. HAMMOND,
Consul.

BUDAPEST, *December 12, 1895.*

RUSSIA: THE COMMERCIAL TREATIES WITH GERMANY AND JAPAN, INDUSTRIES, RAILROADS, ETC.

EFFECTS OF THE COMMERCIAL TREATY WITH GERMANY.

That the commercial treaty concluded two years ago by Germany with Russia has proved of vast benefit to German manufacturers is shown by some recently published statistics. The percentage of increase in many items of export has been enormous. The quantity and value of exports in 1895 far surpassed any previous year, and there is every indication of a further development of the commercial relations between the two Empires, unless some unforeseen cause arises to rupture the present reciprocal treaty.

The following statement of some of the principal exports from Germany to Russia shows how they have grown since 1891, when no commercial treaty existed:

Articles.	1890-91.	1894-95.
	Tons.	*Tons.*
Aniline dyes and unclassified chemicals	3,407	5,365
Cellulose	2,700	12,326
Coal and coke	479,042	661,144
Flour	3,000	99,282
Iron:		
Bars, plates, and wire	95,436	303,824
Manufactures	17,372	26,581
Machinery	24,707	58,403
Raw hides	14,154	18,190
Sugar	11,537	15,377
Wool	4,740	7,016

The German iron industry appears to reap the greatest benefit from this treaty, a field which the country never loses an opportunity to extend. Railway cars of all descriptions form also an important export. In this connection, it may be mentioned that Russia recently placed a large order for railway locomotives in Germany.

The export of agricultural implements has not kept pace with other manufactures. The Germans attribute this partly to the high duties levied on them and partly to the existing low price of grain in Russia and consequent agrarian depression. To this, must be added the cost of transportation, which greatly increases the prices. A movement is now on foot in Russia to give freer access to agricultural implements, a committee having been appointed by the marshals of the nobility at their recent meeting at St. Petersburg to petition for a reduction of the present import duties. The Russian Minister of Finance is said to be in favor of such a reduction, hence legislation to this end may be looked for.

An item of interest to the United States is the great increase in flour exports.

The advantages accruing to Russia from the treaty would seem to be less satisfactory than the very evident ones enjoyed by the Germans, since dissatisfaction is being expressed by the Russian manufacturers. Russian farmers, on the other hand, are favorable to it.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *April 18, 1896.*

COMMERCIAL TREATY WITH JAPAN.

On June 8, 1895, a new treaty was signed in the city of St. Petersburg between Russia and Japan concerning commerce and navigation. The terms of this treaty differ from those of the Anglo-Japanese treaty of July 16, 1895, in the following particulars:

(1) In Article I, which gives to the subjects of both countries full liberty of entering, traveling, and living in all the localities of their territories, the words "in conformity with the local laws" have been added. The latter part of this article, concerning mutual exemption of the natives of both countries from military duty, forms in the Anglo-Japanese treaty a separate article.

(2) The provisions of the Russo-Japanese article 6 are not the same as those of article 7 of the Anglo-Japanese; that is, according to the Russo-Japanese treaty, the subjects of both countries are entitled to more favorable conditions as to exemption from different transit duties and other taxes.

Finally, article 19 of the Russo-Japanese treaty provides that the treaty shall come into force in four years from the date on which it was signed, while the Anglo-Japanese treaty provides for five years. Russia, moreover, has three separate articles added to the treaty. The first provides that the special regulations and provisions pertaining to commerce and navigation mentioned in treaties between Russia and Norway and Sweden of May 8, 1838, and also those relating to commerce with Asiatic countries adjacent to Russia, shall not influence or change the relations, confirmed by the present treaty, between the two countries. According to the second of the separate articles, the following exceptions are secured from the general principle of mutuality which forms the foundation of the present treaty:

For Russia alone.—(1) Exemptions which vessels built in Russia and belonging to Russian subjects enjoy, meaning exemption of ship duty during the first three years; (2) the right given to the coast inhabitants of the government of Archangel of bringing into the ports of said government, duty free or by reduced duty, dry or salt fish and some classes of furs, and to export in the same way bread, rope, cable, tar, and raven's-duck; (3) exemptions given to different societies in Russia, called yachting clubs.

For Russia and Japan.—Monopoly for any merchandise which can be established later on by either of the two countries to its profit.

In the conclusion of the protocol of the Russo-Japanese treaty, the provisions differ from those of the Anglo-Japanese treaty to the following extent:

In article 1 of the Russo-Japanese treaty, the last half of the text contained in the Anglo-Japanese agreement, commencing with the words "duty ad valorem," is omitted.

Articles 2 and 3 of the Russo-Japanese protocol are not contained in the Anglo-Japanese treaty. Of these, the first provides that in case the most-favored customs tariff, guarantied by the present treaty, should be found unsatisfactory in practice, the governments of both of the interested countries may come to an agreement regarding the substitution by a conventional tariff of the customs duty on articles the export of which is of special importance to both countries.

According to article 3, both parties bind themselves to enter into negotiation with each other without delay relative to the conclusion of a convention on the principle of mutuality for import, duty free, of dry and salt fish into Japan from Russia.

The following special provisions are included in the Russo-Japanese treaty: A declaration, which says that article 17 of this treaty shall not interfere with the treaty made between Russia and Japan on April 25, 1875, and also with the supplement of August 22, 1875, signed in Tokyo, which shall remain in full force. In this declaration, only section 6, article 2, makes reference to commerce between Russia and Japan, to wit: Japanese vessels and merchants have the same rights and privileges with reference to navigation and commerce in the ports of the Okhotsk Sea and Kamchatka, and also for catching fish in the same waters, as vessels and merchants of the most-favored nations.

Two diplomatic notes were exchanged between the representatives of Russia and Japan at the time of the signing of the treaty, June 8, 1895. The first note says that a proposition about conventional duties on articles in whose export both countries are interested can be made separately at any time after the treaty is in force, and if no mutual agreement is reached within six months from the time the application is made, then the adoption of the specially favoring tariff will be suspended until an agreement is made. According to the second note, which was presented by the Japanese ambassador to the Russian Minister of Foreign Affairs, the cabinet at Tokyo binds itself to inform the Russian Government of the time when the treaty shall go into effect, which can not be before the code, which has been already published, shall be in operation. This last note is also attached to the Anglo-Japanese treaty.

JOHN KAREL,
Consul-General.

St. PETERSBURG, *December 14, 1895.*

IRON INDUSTRY OF RUSSIA.

In my report, dated June 12, 1895, on Russian iron ore,* I said, "Here, it would seem, are rich fields for enterprise and industry and profitable opening for capital," and now I notice how actively foreign capitalists are taking hold of this industry and what efforts are being made to acquire lands rich in iron ore, especially in southern Russia. In the town of Sumy, a joint-stock company, with a capital of 600,000 rubles, is opening a foundry, with the intention of making machinery for sugar factories a specialty. One of the largest Russian sugar producers took one-third of the shares, but the remaining two-thirds are in the hands of Belgian capitalists. In Charkov, French engineers, in company with the largest Russian mill owners, with a capital of 1,000,000 francs, want to establish shops for the construction of mills. In the same town, a project for large locomotive works is planned, with a capital of 2,500,000 rubles. On the Charkov Railway, Belgians, with a capital of 500,000 rubles, are building glass works, and near by a plant for manufacturing porcelain ware.

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* Printed in CONSULAR REPORTS No. 180 (September, 1895), p. 13.

The firm of Paul Lange & Co., of Cologne, Germany, bought 10 dessiatines (27 acres) of land near Ekaterinoslav, on the other side of the Dnieper, for the purpose of building tube and iron works thereon. In the region of Kerch, large areas of land are being leased in the interest of the production of iron. Two French companies are assiduously investigating and prospecting on the lands and making contracts with the city. One of the directors of these companies made a contract with the town for thirty-six years, with the following conditions: The company binds itself to put up, within two years, iron works, which will employ several hundred men, to produce not less than 600,000 poods (108,000 tons) of ore. The city is to receive one-fourth of 1 copeck for every pood (36.112 pounds) of ore obtained by the company. The company is at present not only leasing large portions of the lands from local landowners, but is also buying. The whole district is very rich in ore and manganese, the beds stretching from Kamysh-Burun to Feodosia, and lying very near the coast. Besides this company, another is working in the same district, buying up considerable land from the local Tartars and Russians. This second company will not work up the iron ore in Kerch, but will transport it to Mariopol, where it already owns large iron works. The reason given for this is, that it requires 3 poods of pit coal, which would have to be brought from Mariopol, to work 1 pood of ore; consequently, the company decided that it was easier to ship the ore than the coal.

The production of raw iron in Russia in 1894 was 166,116 tons more than in 1893. The total amount produced in 1894 was 1,446,286 tons.

The import of iron into Russia in 1894 amounted to 857,859 tons, consisting of 170,467 tons of raw iron and 687,392 tons of wrought iron, steel, machinery, and other iron products, against 570,317 tons imported in 1893; consequently, the total amount of iron consumed in Russia in 1894 was 2,304,145 tons, being 453,658 tons more than in 1893.

From the foregoing figures, it will be observed that the increase in the consumption was considerably larger than the increase in the production. If the increase of the production and of the consumption in 1894 is proportioned to the population of Russia (120,000,000), it will show the average per capita to be 23.8 pounds of production and 38.2 pounds of consumption.

In this respect, Russia is yet far behind the other countries, as will be seen from the following table:

Countries.	Production per capita in 1894.	Consumption per capita in 1894.
	Pounds.	*Pounds.*
England	433.3	162.5
Belgium	267.2	238.3
Germany	249.1	195
United States	216.7	245.5
Sweden and Norway	144.4	104.7
France	108.3	122.8
Austria-Hungary	46.9	46.9
Italy	36.8	65
Russia	23.8	38.2
Spain	19.1	57.7

According to the following figures, which show the amount of raw iron produced in the iron-producing countries in Europe during the year 1894, Russia, although the largest country, produced the least, to wit: England, 7,364,700 tons; Germany, 5,559,300 tons; France, 2,077,600 tons; Russia, 1,313,800 tons.

The South Russian iron industry, whose orders, according to report, have decreased, finds strong competition in Siberia, where many new iron establishments have been built, two of their locomotive works having all the Government orders. The price of iron has been lowered here 2 per cent, on account, so it is said, of the fall in prices of iron in the United States.

Although German papers claim that the great industrial enterprises in Russia generally fall into the hands of Germans, at present the French and Belgians are getting ahead of them. Germany, however, has no reason to complain, for Germany's iron export to Russia increased in 1895 over 1894, while for every other country a decrease is noted.

German exports of iron to Russia.

Quality of iron.	1895.	1894.
	Tons.	*Tons.*
Raw	6,775	6,908
Corner	28,356	18,226
Rails	5,448	7,210
Bars	92,808	84,465
Sheets	48,874	28,026
Rough ironware	13,316	10,988
Total	195,577	155,823

That the French and Belgian capitalists work their schemes in Russia from a practical standpoint, can not be denied. Whenever they enter into large enterprises, they manage to put them under the protection of rich Russians, and the interest and support of these is a big thing in this country.

They are, in fact, necessary to success. American citizens who intend to undertake any enterprise in Russia should make a note of this—it is mentioned simply for their benefit.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 10, 1896.*

The journal Stahl und Eisen (Steel and Iron) contains, in a recent number, the following article:

After the very rapid development of the iron industries in Russia, it will be asked how far there is room for a further extension of these industries. Evidently, it would be folly to attempt to compete with the companies which have just established their excellent works in the south. But Russia is large enough, and the demand there is of sufficient importance and so inadequately covered, that districts can be found favorable for the manufacturer where the raw materials are at hand and where there is a market free from competition. Siberia may be mentioned as an instance, where an immense quantity of iron will be required for the construction and further development of a railway 7,500 versts (4,973 miles) long. Kusnesk seems to be the place destined for the creation of this industry, but plans have also been studied in Irkutsk and Vladivostok. It is not necessary, however, to go further than Caucasia, where the very extensive layers of metal of various kinds, together with naphtha for fuel, will soon lead to the development of a special industry. As has been done in the United States for years, the residuum of petroleum will also be largely utilized in Russia. In consequence of this, some anxiety exists in the coal trade with regard to this competition, especially as in nine-tenths of the cases where fuel is required for the industries, namely, on the Caspian Sea and in the districts which can be reached by way of the Volga as far as Moscow, petroleum is taking the place of coal. Caucasia, however, will have important markets for its metallic products—Persia, Turkestan, all the territory which is supplied by way of the Caspian Sea, Transcaspia, and the Lower Volga, to say nothing of Baku, the central point for petroleum, which forms in itself an important market. Even if it be necessary to seek new centers for the production of pig iron elsewhere than in the south of Russia, the factories required for the further manufacture of the metal must, nevertheless, be established there. It is an astonishing fact that the manufacture of war material, *e. g.*, armor plates, turrets, cannons, and projectiles, has not yet been introduced in the neighborhood of the Black Sea, and, further, that there are no large docks for shipbuilding like those in the north, nor any railway car and locomotive works. The thin tin, with which all the houses are covered, comes solely from the Urals. The tin used for canning fish and for petroleum cans comes from England. Iron for machinery is imported almost exclusively from Germany. There are few specialists for machines and boilers.

All these factories engaged in the manufacture of the metal could evidently not exist before the establishment of smelting works in the south. It was necessary that they should find the raw material ready to hand, and that they should be sufficiently protected at the commencement. These conditions are now fulfilled. Among the industries which have taken advantage of them, and which are now in full prosperity in the south, may be mentioned the manufacture of wrought-iron pipes, that of wire nails and screws in Yekaterinoslav, a pin factory in Odessa, numerous factories for agricultural machinery both in Odessa and in Alexandrowsk, which, however, notwithstanding a considerable production, can not prevent the importation of foreign machines. The above-mentioned industries, which were successively introduced in the south, will unquestionably make great progress. They will benefit the smelting industry by supplying a sure and constant market, which will not be subject to such serious fluctuations as occur in the case of orders for rails. If these manufacturing industries, though less imposing than mines or foundries, are established by experienced men and conducted on business principles, they will give, though with small capital, excellent results.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *February 20, 1896.*

PROGRESS OF THE GREAT SIBERIAN RAILWAY.*

Believing that the progress of the Great Siberian Railway, which is to unite European Russia with the Pacific Ocean, bringing this country closer to the United States, and doubtless increasing greatly our commercial intercourse with it, can not be uninteresting, I venture to give a brief and very general statement of the present status of the work.

The line had, early in the summer, advanced as far as Omsk, making an all-rail connection between that important town of western Siberia and St. Petersburg and Moscow. It was at that time the expectation of the Government that the line would be completed as far as Krasnoyarsk, on the Yenesei River, by the closing of work for the winter. Whether or not this expectation has been fully realized, I am unable to say, but as I was informed by the present very efficient Minister of Ways and Communications that it certainly would be, and as parties dealing with the Government in railway equipment who are in a position to know state that it has now been practically accomplished, I do not doubt it. It is, however, improbable that trains will be regularly run over the road to that point this season. At the end of last August, the line was completed to the Obi River and the greater part of the earthwork was finished to Krasnoyarsk, as officially published. The arrival at Krasnoyarsk completes more than one-third of the great railway.

The coming spring will, therefore, at least, open a direct all-rail communication between St. Petersburg and Moscow and the great Obi River, which flows from the Altai highlands, a rich mining district belonging to the Imperial Cabinet, through a great extent of country to the Gulf of Obi. Its great tributary, the Irtysh, on which are several important towns, including Tobolsk and Omsk, rises also in the Altai highlands and drains another vast section of country, while its branches, rising in the Urals, form water communication with that mining region and the towns on the larger river.

The Obi and Irtysh are both navigable for nearly their entire length. The distance from the mouth of the Obi to the source of either river is about the same, namely, 5,000 versts (3,300 miles). This great river system has been justly described as one of the most colossal in the world. Unfortunately, the greater part of the country drained by the Obi is unsuited to cultivation, but the waterway is in regular and frequent use for commercial communication between remote sections of Siberia and Russia, both through the Gulf of Obi by sea and by way of Omsk.

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* For previous reports on the Great Siberian Railway, see CONSULAR REPORTS No. 166 (July, 1894), pp. 425-434, and SPECIAL CONSULAR REPORTS, "Highways of Commerce," pp. 409-418.

At Krasnoyarsk, the railway taps another great waterway, the Yenesei, flowing through a country of very different character, so far as fertility is concerned, from that of the Obi Valley, and also having its rise in the rich mining region of the Sayan Mountains. There is also considerable traffic upon this river.

During next summer, it may be expected that the line will be carried as far as Lake Baikal. What the direction of the road thence will be, remains to be seen. Doubtless, it will be carried to Stretensk or to Blagovashensk, on the Amoor River, on which the Amoor Navigation Company maintains a fleet of boats which is to be increased next summer by eleven American-built barges, but that the road is to follow the course of that river seems hardly probable. I have learned that the engineers sent to survey that part of the line, have received instructions to carry their survey from the end of Lake Baikal to Vladivostok, across Manchuria; this, as pointed out in a previous report, would shorten the line of road nearly 1,000 versts and would also avoid very serious engineering difficulties.

That this great railway system is destined to open up a country of great richness can not, in the light of present knowledge, be doubted. The mining regions of the Urals, the Altai, and the Sayan Mountains have remained undeveloped, and indeed but little explored, because of the difficulty of transportation of their product, all the great waterways reaching them flowing northward into the Arctic Ocean. Already, in the Urals, enterprise is making progress and operations in the mining and smelting of iron and copper ores and working of the metals are being established.

Profound interest is felt by all Russia in the progress of the work on the great transcontinental railway, and it is known that the Emperor, who, as Czarevitch, was its president, has its early completion deeply at heart.

So far as possible, in accordance with the policy of protected industries and home production instituted with such intensity of feeling by the late Emperor, all of the construction and equipment of the road is being done and is to be done in Russia by Russians. Foreign capitalists are embarking, upon the strength of Government contracts, in the erection of works for the manufacture of rails, locomotives, and other equipment, but the works are to be erected in Russia and operated by Russian labor.

There is now engaged upon the absolute work of the construction of the railway a force of over 70,000 workmen, besides engineers and officers, and, up to January 1, 1894, 73,000,000 rubles had been expended.

HERBERT H. D. PEIRCE,
Chargé d'Affaires ad interim.

ST. PETERSBURG, *October 14, 1895.*

The Minister of Ways and Communications has made a report to the Siberian Railway committee, of which the Czar is the president, on the status of said road and the progress made in 1895. From this report, it appears that during the season of 1895, 1,385 versts (918¼ miles) were built, and that the whole length of the great central Siberian Railway from Cheliabinsk to Vladivostok is 6,858 versts (4,547 miles), of which at the time of ceasing work in 1895, on account of the winter season, 2,487 versts (1,649 miles), or 201 versts more than one-third of the whole line was completed; and that now, since the railway has been completed to Krasnoyarsk, Russia possesses a direct route from St. Petersburg to the River Yenesei, a distance of 4,610 versts (3,056½ miles). A good deal of work has also been done on the branches.

The great problem of the Siberian Railway—how to cross the formidable mountains of the Chaman Duban group, spurs of the Siansk chain, with the numerous cañons running through them, around the south of Lake Baikal, which would make the engineering work equal to that of half of the entire railroad—has been solved, and the solution of the difficulty is that the trains will be ferried across in the same way as between Denmark and Sweden from Elsinore to Helsingborg, or on Lake Michigan, between Kewaunee, Wis., and Frankfort, Mich. A great deal of discussion is now heard as to the feasibility of the scheme, which reminds me of what took place four years ago, when the scheme between Kewaunee and Frankfort was talked about, experts doubting the feasibility of the line, which has since proved successful in every respect. The distance of the line across Lake Michigan is over 60 miles, whereas the distance under contemplation across Lake Baikal is only 30 versts (not quite 20 miles). After crossing the lake, the old survey again runs north to Posolskoi and thence resumes its former eastern course. This the Russian Government is now trying to avoid, and is making efforts to lead it through Manchuria for several advantageous reasons. The road through Manchuria would be about 1,000 versts (663 miles) shorter and much less expensive, besides being of great commercial advantage, since it would pass through a densely populated region, rich in natural products and lacking in manufactured goods. But, whether the Russian Government has succeeded in the negotiation of the matter in Peking or not, is not yet publicly known.

How much the Russian Government is interested in its railways is shown in the budget for 1896. The Minister of Finance brought in an item, under the head of "extraordinary expenses," of 130,459,580 rubles, which is divided as follows: For the construction of the Siberian Railway, 82,248,170 rubles; for subsidiary enterprises connected with the construction of the Siberian Railway, 2,485,410 rubles; for construction of other railroads of general importance, 15,726,000 rubles; for construction of local railroads and connecting lines, 10,000,000 rubles; and for rolling stock, 20,000,000 rubles.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *January 14, 1896.*

A NEW RAILWAY FOR SIBERIA.

A permit has been given for the construction of a new railway from the Sosva River to Blagodat Mountain, which will connect Siberia with the Ural Railway and with the future Perm–Kotlas–St. Petersburg Railway. This will be the shortest railway between the Obi and Volga system and the North Dvina. The project of connecting the River Sosva with the Ural Railway was advocated at the time of the construction of the latter, and in 1870 all preliminary surveys were made, at their own expense, by private parties who owned large iron works on the River Sosva; but for reasons unknown, a privilege for the construction of this shortest way from Kama to Siberia, which shortens the present Ural Railway one-half, has been ignored and denied until now, when Siberia urges its necessity for the purpose of exporting its superfluous agricultural products. To understand the importance of this road, one has only to glance at the map. The large navigable River Sosva commands all the freight through the rivers Tavda and Irtysh, not only from North Siberia, but from the far south, beginning with the frontiers of China, on the Altai, to the Frozen Ocean, and ending with the Yenesei government. This natural waterway lies so near the Ural that a railway of 470 versts (312 miles) over the Ural Mountains is adequate to transport all the cargoes from Siberia to Kama, whence it can be forwarded by water to Yaroslav and by rail or water to Sukhona, and thence have access to the markets of western Europe through Archangel and the ocean, after freightage of only 1,000 versts (663 miles) between Sosva and North Dvina. There is no doubt that this direct connection between Sosva and North Dvina will be welcomed by the inhabitants of Siberia, as it will be of great service to agriculture, for Siberia is already producing so much grain that a cheap outlet for it to the international markets has become a necessity. The yearly emigration to Siberia is estimated, in round figures, at 100,000, and nearly all of these emigrants are agriculturists, finding there rich farming and agricultural lands. Therefore, to avoid overproduction of grain products, by the increasing population, Siberia is seeking an outlet for them.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *January 14, 1896.*

CEREAL CROPS OF RUSSIA IN 1895.

According to preliminary information of the Department of Rural Economy and Statistics, the totals of this year's harvest of the principal cereals in European Russia, with the exception of the Vistula governments and of the Caucasus, in comparison with former years, are found to be the following:

Grain.	1894.*	Yearly average during the period 1883–1892.	1895.
	Bushels.	*Bushels.*	*Bushels.*
Winter wheat	106,430,030	73,125,500	85,067,150
Spring wheat	258,231,190	162,809,850	153,867,000
Rye	753,216,910	551,953,400	579,591,150
Barley	237,457,360	152,355,700	162,714,650
Oats	548,685,660	527,128,350	562,709,350
Pease	27,805,540	15,146,320	14,553,105
Maize	18,946,585	22,354,150	21,533,050

* According to data of the central statistical committee.

This year, the Department of Rural Statistics has collected for the first time data of the ten Vistula governments, but as there are no comparative data of the average harvest during the period 1883–1892, these figures could not be included in the foregoing table. Therefore, they have been put into a separate table, as follows:

Grain.	1894.*	1895.
	Bushels.	*Bushels.*
Winter wheat	17,067,575	15,981,700
Spring wheat	240,380	238,000
Rye	52,413,550	48,314,000
Barley	17,312,715	13,536,250
Oats	44,619,050	35,015,750
Pease	4,926,005	3,927,000

* According to data of the central statistical committee.

The prices paid for cereals in St. Petersburg, reduced to American weights and money, were as follows:

Grain.	Per bushel.	
	Bought.	Sold.
	Cents.	*Cents.*
Wheat:		
First grade	$60\frac{4}{10}$	68½
Second grade	53½	58
Rye	38	40½
Barley:		
Long	51⅞ to 79⅜	....
For fodder	....	34¾
Oats:		
First grade	24⅜ to 26	25 to 27
Second grade	23⅜ to 24	23⅝ to 24⅜

The exports of wheat, rye, barley, oats, and maize from Russia during the last ten months, *i. e.*, from the 1st of January to the 1st of November, 1895, were as follows:

	Bushels.
Wheat	114,046,511
Rye	44,545,442
Barley	62,620,465
Oats	65,493,626
Maize	9,366,550

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *November 20, 1895.*

RUSSIAN GRAIN AND FLOUR TRADE.

The total export of the principal cereals from Russia for the year 1895 was 57,728,318 bushels less than in the year of 1894. The decrease was in barley, oats, and maize, as will be seen from the following table:

Grain.	1894.	1895.
	Bushels.	*Bushels.*
Wheat	116,922,832	131,312,260
Rye	46,827,633	50,220,185
Barley	105,544,091	72,053,973
Oats	99,207,563	74,985,440
Maize	28,115,771	10,317,714
Total	396,617,890	338,889,572

The exporting harbors of South Russia should be satisfied with the grain trade of last year. In this respect, data of the port of Nikolaev are interesting. Although the export of cereals from that port amounted to only 76,100,000 poods, being 11,500,000 poods less than in 1894, the value of the exported grain in 1895 was 5,500,000 rubles higher than in 1894, which was caused by higher prices. Wheat and rye sold for 8 copecks and barley for 11 copecks per pood (36.112 pounds) more than in 1894. What helped the Russian exporting grain dealers in those localities still more, was that they were made independent of foreign capital, receiving assistance from the Russian Government Bank. But the Russian flour market is still suffering from overproduction, so that many of the larger steam flouring mills in Rostoff, whose trade mainly depends on export, have suspended work for a time, and the millers are exerting themselves to find a new market for their flour, their attention being directed to Servia, which country they have already flooded with flour samples. It would seem from the action of some of the South Russian steamboat transportation companies in fitting some of their boats exclusively for the flour trade that they are expecting an increase in the flour export.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 3, 1896.*

CULTIVATION OF COTTON IN RUSSIA.

Interesting statistics have been published regarding the cultivation of cotton in Samarcand during 1893–94. Until 1890, the inhabitants cultivated cotton from the native seeds, and then only enough for the home demands for fiber and oil. After 1890, on account of the high price paid in Russia for foreign cotton, and also on account of being supplied with American cotton seed and money advanced on future crop, the cultivation of American upland cotton increased in all the districts of that country.

An increase in area under American cotton is noticed up to 1892, but in 1893, there was a falling off, which was still greater in 1894. This was caused by the increase of prices of cereals and the low price paid for raw cotton. These prices were especially detrimental to cotton planters who borrowed money in advance against the crop, because the cotton crop during those two years was, on account of drought, frosts in autumn, and the deficiency in the quality of the upland seed, very unsatisfactory.

The mistake made by the agents of the firms distributing seeds and advancing money to the planters is that thousands of pounds are put into one heap in granaries. The temperature in the middle of such a heap rises naturally very high; consequently, the seed, which contains about 40 per cent of oil, spoils, and is then distributed to the planters without any assortment. This seed becomes worse and worse every year, for which the planters are to blame, because when they harvest their cotton they do not take pains to select the best seed, but take the plants as they come, wherefore the seed is often not sufficiently ripe.

The following table shows the area under cotton during the last five years and the percentage relation to the total area of cotton raised from the American and native seeds:

Seed.	1890.	1891.	1892.	1893.	1894.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
American	16,033	35,889	49,579	43,702	25,887
Native	36,801	19,841	17,491	14,336	18,525
Total	52,834	55,730	67,070	58,038	44,412
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
American	34.2	64.4	73.9	75.3	58.3
Native	65.8	35.6	26.1	24.7	41.7

From this table, it will be noticed that the area under American cotton increased 123.8 per cent in 1891, as compared with 1890, 209.2 per cent in 1892, 172.6 per cent in 1893, and 61.5 per cent in 1894. On the other hand, the area under native cotton gradually decreased until 1894, but in that year increased 29.3 per cent as compared with 1893. The cause of this, apparently, was the fact that the advancement of money on future crop for

American cotton ceased. During the last two years the crop of cotton was as follows:

Districts.	American.		Native.		Total.	
	1893.	1894.	1893.	1894.	1893.	1894.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Samarcand	16,152,898	4,963,017	2,242,555	5,558,359	18,395,453	10,521,376
Katta-Kurgan	19,644,928	11,555,840	5,623,072	7,396,460	25,268,000	18,952,300
Khodjent	4,448,096	3,355,346	1,631,540	1,381,103	6,079,636	4,736,449
Djizak	243,756	125,128	236,172	209,883	479,928	335,011
Total	40,489,678	19,999,331	9,733,339	14,545,805	50,223,017	34,545,136

From the foregoing, the following quantity of pure fiber was obtained:

Districts.	American.		Native.		Total.	
	1893.	1894.	1893.	1894.	1893.	1894.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Samarcand	4,442,064	1,488,898	504,557	1,334,013	4,946,621	2,822,911
Katta-Kurgan	5,402,355	3,466,752	1,256,156	1,769,488	6,658,511	5,236,240
Khodjent	1,224,124	1,006,622	367,006	331,472	1,591,130	1,338,094
Djizak	67,024	37,556	49,509	50,376	116,533	87,932
Total	11,135,567	5,999,828	2,177,228	3,485,349	13,312,795	9,485,177

The price per pound of cotton, pressed and packed, in the different districts, was as follows:

Districts.	American.		Native.	
	1893.	1894.	1893.	1894.
Samarcand	$0.11	$0.10¾	$0.09⅓	$0.08⅜
Katta-Kurgan	.10	.09⅛	.09	.08⅜
Khodjent	.11	.10	.08⅓	.08⅜
Djizak	.11⅜	....	.09⅛	....

Over the Transcaspian Railway, 7,899,510 pounds of cotton was transported in 1893 and 6,835,604 pounds in 1894.

It is claimed by those who seem to be acquainted with the situation, that the bad quality of the upland seed, the decrease in the crop, and the low prices paid for the cotton should be ascribed to the unsatisfactory manner in which the Russian firms buy the cotton and to the carelessness of the agents of such firms.

The owners of cotton mills in Lodz and Moscow complain that the fiber they purchase always contains different admixtures, such as sand, stones, clay, lime, etc., the quantity of which sometimes amounts to 10 per cent of the total weight of the bale. It seems unlikely that such a large quantity of foreign matter could get into the bales during transportation, and it may be put into the cotton at the time it is pressed. The manufacturers lay the blame upon the planters and transporters. The fact is, the planter sometimes adds to the raw cotton a powder made of slacked lime and fine white sand, so that it shall weigh more, but this is done generally in small quantities; otherwise, it would be noticeable. The planter can be really blamed for adding extraneous matter only to the raw cotton which he sells, but not to the cleaned fiber. After being cleaned, it goes to the press and comes out in bales, sewed up in bagging and girded by wire ready for transport, either by rail or otherwise. From the complaints of the manufacturers, it appears that the admixtures are not only found near the surface, but also in the middle of the bales; therefore, it is reasonable to suppose that they did not enter during transportation, but must have been put in before, because no extraneous bodies, not even water, can get into a bale which is pressed by 150 to 275 atmospheres and containing up to 28 pounds of fiber per cubic foot. It is true that the bales get dirty from the surface from 1½ to 2 inches during the transport, for which the forwarding agents are to blame. It is also true that, to make it cheap, they put from 1,500 to 1,600 pounds of cotton on an old cart drawn by one weak horse, the load being left uncovered. On the roads from Tashkent and Fergan, owing to their bad condition during the winter, when the principal traffic takes place, are seen scattered bales of cotton, dead horses, and broken carts; in such cases, of course, the cotton gets dirty from outside, but the clay, stones, etc., that are found in the middle of the bales must have been put in before, and the carriers should not be blamed for it.

The governor of Samarcand, in 1894, organized committees for the purpose of bettering the cotton trade; but it seems, from all that is learned of the Samarcand trade, that the proper parties to improve it should be the buyers and their agents.

The harvest of cotton this year is very abundant, and, on account of the extraordinarily warm weather in September and October, ripened well. The area under cotton, owing to the cheapness of cereals, was this year much increased. Before the export of last year's cotton was finished the new crop was ready. It seems that the machines used in this country for ginning cotton are not good, and, therefore, not much used, cotton cleaning being mainly done by hand, which is a very slow process. Consequently, the abundant crop induced buyers to seek new means for its cleaning. Besides, they hope for a cold winter, so that the peasants will be detained from their work in the fields and obliged to sit at home and clean their cotton.

Cotton was exported to the extent of 1,480,592 pounds from the Khanate of Khiva and the district of Amu Daria at the end of August. Here, the cotton costs the planter on the spot, per pood (36.112 pounds), from 4.50 to 5.50 rubles ($2.33 to $2.84); delivered in Moscow, from 6 to 6.50 rubles ($3.11 to $3.36). It was sold at from 6.70 to 7.30 rubles ($3.47 to $3.78), which is here a high price and not considered by buyers for cash a good investment for speculation. The Sarthes in Turkestan, however, who are in the habit of practicing usury to a great extent in spite of its strict prohibition and whose expenses are less than those of the Russian firms, earn much more than the Russians do. The common practice among them is to advance to the planter about one-half the value of the crop, making the payment due on a certain date, and if the planter is unable to meet his obligation, a new promissory note is made, but for double the original amount. This year, on account of the splendid harvest, all feel happy—the planters, because they will be able to pay their debts, and the usurers, because they will receive large sums of money.

The present prices of cotton in Moscow are: American middling upland, $5\frac{15}{16}$d. per pound; Orleans and Texas, 5d.; Egyptian good, fair yellow, $5\frac{5}{8}$d.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *November 30, 1895.*

PREPARATION OF CAVIAR IN RUSSIA.

Fishing is one of the most important branches of Russian industry. There is, perhaps, no other country on the globe where fish plays such a leading part in the economy of life as in Russia. In proportion to other countries, there are more people in Russia who, not being able to buy meat, have to depend on fish for food. Then, on fast days, of which there are many, fish is an indispensable article for the whole nation.

Russia has a large number of important rivers, streams, and lakes, besides a coast of 4,948 miles, which are rich in fish, with some rare and very fine species.

The most valuable products of the fish industry in Russia are cod-liver oil and caviar. The Russian caviar is obtained mainly from sturgeon. In the Volga district, the white sturgeon leads for the high quality of its roe; next, comes the common sturgeon.

A business firm in the United States has written to me:

> We have here in our fisheries the roe of the cod and pollock and other salt-water fish, which, at certain seasons of the year, is very plentiful and quite cheap. We thought that if we could find out how the caviar was prepared for market, we might utilize our fish roe and make a market for it.

Although the preparation of caviar in Russia does not differ from that in other countries, its superiority being due to the fine quality of the roe, I have endeavored to find out the process of its manipulation and to obtain all the information on the subject. The following is the process, as I witnessed it:

When a stranger is admitted into the fishing section where caviar is prepared, he finds it supplied with a number of troughs, wooden tubs, and vats, a stand looking like a bench with upper frame open, on which is placed the freshly salted caviar in order to separate it from the superfluous brine. There is also a very important implement—the caviar press—with which the pressed caviar is prepared. On the walls hang the caviar sieves, consisting of wooden frames and nets of strong cord. The workmen separate the caviar from the egg bags in which it is inclosed by rubbing it with the hand through a sieve into a vat. The egg skin does not go through, but remains on the surface of the sieve. When fish are in the first stage of decomposition, the egg skins get so soft that they can not be separated from the roe, and from these the low grades of caviar are made. Next, is the salting of the caviar; it is salted only with brine made of fine salt. The difference in "fresh" caviar is caused by the smaller or greater quantities of salt contained in the brine, and this is regulated to meet the length of time the caviar is to be kept. The fresh brine is kept in large wooden tubs, and the fine, clean salt used for the preparation of the brine is put into small bast barrels. The superfluous brine is used again. Immediately after the eggs have been rubbed through the sieves, they are put through the brine, and as soon as they are deprived of the superfluous brine they are put into tin jars or cans and small wooden kegs, and the so-called fresh caviar, which is high priced, is ready for market. The cheaper kind is first cured in the brine, then put into linen bags and pressed. This is called the pressed caviar.

The roe should not be taken from the fish before the third or fourth year, when it is ripe and grown to its full size. Many fish are cut before the roe is ripe, and, in such case, the roe must be used immediately. This is one reason why fresh caviar can be obtained at all times.

Russia exported from January 1 to November 1, 1895, 4,658,448 pounds of pressed caviar, valued at $201,365, and 17,000 poods (613,904 pounds) of fresh caviar, valued at $524,795. At present, the fresh caviar is very dear, selling at wholesale at from $51 to $56 per pood (36.112 pounds). The caviar pressed in bags sells at $36 per pood and that pressed in tubs and kegs at $31 per pood.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 17, 1896.*

THE RUSSIAN FLAX TRADE.

The Russian flax trade began during the autumn of 1895 under more favorable conditions than one year before. No stock of the old flax was left anywhere, and the quality of the new flax abroad suffered from the weather, while in Russia it was much better than last year. In fact, it was good, the first and second qualities predominating, with a little admixture of the lower quality. Owing to such conditions, activity in the flax trade and an increase of the export were expected. The lively trade in spinning material and articles should also have caused an increased demand for flax. The prices of cotton and wool and of woolen manufactures advanced. The export of tissues and woolen stuffs increased from all the producing countries on account of the large demands from the United States. The export of flax yarn from England increased during October 10.1 per cent as compared with the average export during the last five years, and of flax manufactures, 20.4 per cent. The United States imported 8,000,000 yards of flax tissues, against 6,000,000 before, being an increase of 35 per cent. From Germany, 12 per cent more in September and 22 per cent more in October of flax tissues were exported than during the same months last year. But, notwithstanding these favorable conditions, there was no animation in the Russian export trade of flax. On the contrary, the export has somewhat decreased, as will be seen from the following table, which shows the quantity of flax and tow that has been exported from Russia during the months of September, October, and November, 1895, as compared with those of 1894, as reported by the custom-house:

Month.	Northern.		Overland.		Total.	
	1894.	1895.	1894.	1895.	1894.	1895.
Flax.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
September	5,112	6,563	1,553	1,553	6,665	8,116
October	6,482	6,374	2,348	1,102	8,830	7,476
November	8,714	4,225	2,564	1,228	11,278	5,453
Total	20,308	17,162	6,465	3,883	26,773	21,045
Tow.						
September	894	1,636	307	777	1,201	2,413
October	2,525	2,054	271	163	2,796	2,217
November	2,306	432	307	36	2,613	468
Total	5,725	4,122	885	976	6,610	5,098

The foregoing figures show that, in September last, Russia exported more than in the previous year, which was on account of filling old orders; but in October and November, the export decreased greatly. Complaints are heard from foreign markets that the Russian prices are high and that the quality does not come up to the standard represented by the Russian agents. On the other hand, the Russian dealers claim that the present prices are lower than they were in former years, and that the decrease in export of flax is due only to speculation; that, according to information, large contracts were closed in last July and August for future flax, but that since September, hardly any large shipments have been made from the exporting localities, foreign as well as home dealers holding off. The prices on the markets here offered to raisers of flax are so unsatisfactory that, in some localities, the peasants prefer to take their flax home again.

Such a condition of things would have a still worse influence on the prices of flax if it were not for the exceptional activity of the home trade. The Russian mills received large orders, and, consequently, increased their production and made large demands for flax. In view of this, the difference in the character of the trade of the exporting localities, such as lie near the manufacturing districts, is especially noticeable. Recently, however, prices have been lowered all over Russia; but as this decrease coincides with the setting in of sledge roads, when the principal transportation takes place, it can be looked upon as an ordinary circumstance of no great importance. There is no doubt that prices will soon rise, for the reason that the time of the year when the peasant hastens to sell his flax has passed and the time is at hand when foreign firms, owing to the demands for manufactured goods, will begin to fill the orders received and will have to renew their supplies of raw materials. Besides, the crop abroad is not large, and the demand for manufactured articles increases. The following are the prices of flax as quoted lately at some of the larger markets:

Description.	Price.
St. Petersburg.	*Per berkovets.**
Bejetsk (cleaned)	$22.00
Kashin (cleaned)	20.00
Krasnoholmski (cleaned)	19.45
Yaropolski (cleaned)	18.00
Ostrov.	
Select	22.15
Picked	19.45
Coarse	17.00
Pick garbage	14.00
Garbage	11.75
Dvinsk.	
Zins (cleaned)	$17.50 to 18.25
Superior (cleaned)	14.90 to 15.65
Picked (cleaned)	12.35 to 13.10
Viszma.	
Cleaned:	
First quality	13.90 to 14.90
Second quality	12.35 to 13.35
Third quality	10.80 to 11.80
Ready for spinning	19.45 to 21.60
Tow	4.60
Revel.	
Sychevsk	17.50 to 17.75
Yaropolsk	16.50 to 18.25
Revel—Continued.	*Per berkovets.**
Uglich	$19.75 to $20.00
Krasnoholmsk	19.45
Kashin	19.00 to 20.00
Bejetsk	20.35 to 20.60
Vologodsk	21.00 to 22.00
Vitebsk.	
Yanovich pick	18.00 to 18.50
Koruna	15.45 to 15.95
Beshenkov pick	17.50 to 17.75
Velikolutsk	19.00 to 19.50
Garbage	11.75 to 14.75
Viszma.	*Per pood.*†
Raw flax	.67 to 1.05
Rzew.	
Select (cleaned)	1.75 to 1.85
First quality (cleaned)	1.55 to 1.65
Second quality (cleaned)	1.30 to 1.40
Third quality (cleaned)	.95 to 1.10
Kashin.	
Best quality (cleaned)	2.00 to 2.10
Middle quality (cleaned)	1.85 to 1.95
Vorotynetz.	
Raw flax	.50 to 1.35

* 1 berkovets=361.12 pounds.

† 1 pood=36.112 pounds.

In reducing prices to United States currency, the paper ruble was valued, as quoted by the Imperial Bank, at 66.7 copecks in gold, equal to 51½ cents.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *January 8, 1896.*

PRODUCTION OF RAW SILK IN RUSSIA.

The production of raw silk in Transcaucasia during the year 1895, especially in the government of Kutais, was very unsatisfactory, partly on account of drought and heat, which caused an early growth of the mulberry trees, followed by cold and rain, and, in some places, even snow and frost, so that whole hatches of silkworms perished. Besides, from 40 to 70 per cent of the worms perished from the following cause: When the silk producers received the eggs from abroad, they were afflicted with the febrina; consequently, the harvest of the cocoons in Russia was poor and the price advanced, so that at the end of the year, the price paid in Nucha for Bagdad cocoons was from 40 to 42 rubles* per pood (36.112 pounds); for Japan cocoons, 16 to 20 rubles; for Bagdad twins, 17 rubles; for Japan twins, 10 to 11 rubles; and for garbage, 11 to 12 rubles. Bagdad cocoons cost, in Shusha, 45 rubles, and Japan cocoons, 20 rubles, per pood. Much of the losses were due to the ignorance of the population concerning the proper care of the worms.

In the region of Transkatal, the silk producers obtained only from 2 to 4 pounds, and in some cases 8 pounds, of cocoons from 1 zolotnik (4.2657 grams) of eggs.

If the silkworms were properly handled and fed, 22 pounds of cocoons of very good quality could be produced from the same weight of eggs.

As the Moscow industry requires more raw silk each year and desires to be independent of foreign countries, measures are being taken by the Government and private parties to teach the proper method of silkworm breeding and the production of raw silk.

A new society, called the Society of Silkworm Breeders, has been organized in the government of Kutais. In the Don district, many successful trials have been made. The Government is making every effort to introduce silk culture into European Russia. In Charkov, premiums are being given to persons who plant mulberry trees and preparations are being made for the organization of a society for the raising of silkworms, which, when founded, will be the first of its kind in European Russia.

The production of raw silk in Transcaucasia decreased so that the supply in Moscow in 1895 was much less than in 1894, and the manufacturers, in consequence, bought at higher prices.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 3, 1896.*

MANUFACTURE OF WINE FROM RAISINS.

Although in most countries strict laws exist for the regulation of the manufacture and inspection of food and drinks—in the first place, from the standpoint of health, and, in the second place, for the purpose of collecting revenue—some articles are openly manufactured that can not be accurately watched and assessed, and these are sold for something else than they actually are. For instance, according to the complaints of the directors of the excise department in different governments in Russia, a wine is made of raisins and sold for Hungarian wine and Russian fruit kvas, which competes with the Russian grape wine. In governments densely populated by Hebrews, as in the Kingdom of Poland, in the northwestern and southwestern regions, the production of wine from raisins, which is used by the Hebrews for some of their religious ceremonies, has greatly increased—its total production in Russia being now more than 357,324 gallons per year. The average wholesale price is about 58 cents and the retail price about 75 cents per gallon, but in some of the outside governments, this wine sells at very high prices, especially in the government of Chernigov, where it retails at $4.60, and in the government of Vilna, at $3.65 per gallon. In thirty-two governments and in the Ter and Kuban regions and in western Siberia, raisin wine is not made at all.

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*1 ruble = 51½ cents.

The preparation of this wine is very simple. The raisins are finely chopped, put into a vat, and warm water poured on them. The strength and quality of the wine depends upon the quantity of water used. Generally, for 1 pood (36.112 pounds) of raisins, from 5 to 13 gallons of water are used, from which 3½ to 5½ gallons of wine are obtained. The raisins are left from four to five days to ferment, and then the liquid is poured through a filter and the wine is ready. Sometimes, this wine, which is naturally of a yellowish color, is colored with burnt sugar or with black currants. It is very strong, containing about 12 per cent of alcohol. On account of the simplicity of its preparation, no control is possible; consequently, it gives every opportunity for evasion and abuse.

Wine is also made from berries and from fresh and dry fruit, but the quantity is insignificant, because it is difficult to sell on account of its high price.

According to the department of indirect duties, the total yearly production of wine in Russia is valued at 20,000,000 rubles.

The Ministry of Finance, being desirous to protect the public and the excise against fraud from raisin wine, has just issued the following regulations concerning it: The factories where wine from raisins is made shall pay, according to the location, a tax as high as the wine sellers have to pay. The strength of the wine shall not exceed 12° of spirits. The wine is to be put on the market in glass bottles only, which must bear labels of certain color prescribed by the Ministry of Finance, with the inscription "raisin wine" on them. It is strictly forbidden to print on such tickets the name of any other wine. Violations of these regulations will be punished by heavy money fines.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 26, 1896.*

THE RUSSIAN HOP CROP OF 1895.

The hop crop of Volyn in 1895 can not be called even middling. Very few dessiatines (1 dessiatine=2.6997 acres) produced more than 30 poods (1,083 pounds) each. The principal cause for such a small crop was the bad and stormy summer, on account of which only about one-half of the plantations survived. The season has taught the hop growers of Volyn a new lesson. They have been in the habit of sustaining the hop vines with common props, but have now come to the conclusion that it is necessary to give them substantial support. The total crop this year in Volyn does not exceed 90,000 poods (3,250,080 pounds). This amount is distributed among the districts as follows, in pounds: Dubno, 1,083,360; Lutsk, 722,240; Rovno, 541,680; Zhitomir, 722,240; the remaining districts, 180,560.

In the southwestern districts, the total hop crop amounts to 3,611,200 pounds. The hops in Volyn were harvested in favorable weather, but during the drying period frequent rains occurred, which gave the hops a brownish color, instead of light yellow, which it has when gathered without any damage. Although the brownish color does not alter its quality in the least, it influences the price.

The sale of hops this year in this country does not differ essentially from that of the preceding year. The price is from 5 to 10 rubles per pood ($2.75½ to $5.15 per 36.112 pounds) for the best quality. The Volyn hops shipped to the fair at Warsaw, held from the 25th to the 30th of September last, commanded only 10 rubles per pood for the best. At present, the price at Volyn does not exceed 7 rubles ($3.60½) per pood. This depressed state of the hop market was greatly influenced by the large stock of hops from last year, which amounted to 3,250,080 pounds. Of the new crop, about 1,805,600 pounds were sold at from 3 to 10 rubles per pood (4.3 cents to 14.3 cents per pound), mainly abroad. It is expected that the lands devoted to hop culture in Volyn will greatly diminish in area on account of the poor market.

The large hop growers of Russia have determined to organize a more rational culture and more regular trade, thinking that these will do away with speculation. It is reported that a syndicate of the Volyn hop growers will be organized in the near future.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *December 2, 1895.*

RUSSIAN BEET SUGAR.

According to information furnished by the Russian sugar manufacturers, on November 1, 1895, the area under beets amounted to 849,910 acres, which is 29,855 acres, or 3.6 per cent, more than in 1894. From this year's area 6,009,955 tons of beets are expected, which would be 105,345 tons, or 1.8 per cent, more than in 1894, in which year the yield amounted to 5,903,604 tons. The quantity of sugar in the campaign of 1895–96 is estimated at 717,558 tons, which would be an increase of 115,607 tons, or 19.2 per cent, over the last campaign, when the production amounted to 601,923 tons. However, the above figures state only the possible production, being based on the following conclusions: That the whole expected crop of beets will be accepted by the sugar factories, that the percentage of sugar contained in the beets will be the same as up to November 1, 1895, and that the whole quantity of sugar obtained will be manufactured into white crystal sugar during the present campaign. It can hardly be expected that all this will be realized, for the meteorological conditions must be taken into consideration, and for these no one can answer in advance. Then, on account of the present state of the sugar market, it is improbable that the greater quantity of the sugar will be refined, but rather left in the raw state until the next campaign. This theory seems to be supported by the data of last year, when, on November 1, 1894, the sugar factories expected to produce 601,923 tons of sugar from 5,903,604 tons of beets, but in reality 5,958,982 tons of beets were worked and only 586,236 tons of sugar were produced, which goes to show that 55,378 tons more of beets were worked than was expected, yet 15,687 tons less of sugar were produced than was figured for. The bureau of the sugar manufacturers' representatives publishes the following statistics concerning the present year's expected crop of beets and the yield of sugar therefrom in the different governments of the Empire:

Governments.	Total area under beets.	Total quantity of beets expected, together with the quantity accepted by the factories.	Total quantity of sugar expected in the campaign of 1895–96.
	Acres.	*Pounds.*	*Pounds.*
Kiev	226,254	3,379,685	413,265
Volyn	48,672	656,010	82,552
Podolia	195,790	2,814,352	320,638
Bessarabia	2,227	36,112	3,791
Kherson	9,115	130,003	14,444
Kursk	86,186	1,004,816	118,483
Poltava	7,020	86,596	10,797
Charkov	105,046	1,587,050	191,393
Voronezh	14,909	136,142	14,192
Orel	6,242	42,720	5,272
Samara	6,369	99,849	7,944
Tambov	14,863	160,228	17,478
Tula	3,499	37,339	2,888
Chernigov	25,677	297,165	31,345
Warsaw	50,360	741,776	99,163
Kalish	7,597	143,039	19,500
Kelets	6,142	107,794	11,230
Lomzha	1,957	42,251	5,164
Lublin	15,584	250,111	29,034
Petrokovsk	3,237	40,626	5,416
Plotsk	6,110	108,588	18,019
Radom	4,584	79,446	9,316
Sedletsk	2,470	36,112	3,791
Total	849,910	12,017,810	1,435,115

The price of sugar abroad has risen considerably lately, and that is probably the reason why the demand for Russian sugar for export at Kiev market increased.

Russia exported from September 1 to November 24, 1895, 19,260 tons of sugar.

JOHN KAREL,
Consul-General.

St. Petersburg, *December 14, 1895.*

CATTLE PLAGUE IN EUROPEAN RUSSIA.

An elaborate official report has been published on the results of the measures adopted against the spreading of the cattle plague in European Russia during the last twenty-five years.

The plague, from which thousands of cattle perish yearly, is the terror of a Russian landowner, whose property, often consisting only of a few head, is annihilated by it. The Government has fought against this disease with every possible means. In 1876, the Minister of the Interior came to the conclusion that quarantine and the strictest isolation of infected cattle were not sufficiently radical measures for the destruction of the evil; therefore, a number of new regulations were adopted and published, according to which every head of cattle infected with the plague should be immediately killed and burned. This law, however, was put in force only in Russian Poland, and after the lapse of five years, a decrease in the spread of the disease was observed. From 1875 to 1879, in forty governments, 180,000 head of cattle were destroyed by the plague, and from 1880 to 1884 it raged to such an extent that in forty-two governments 222,000 head per year were destroyed, so that the Minister of the Interior found it necessary to enforce the regulations in all the forty-two governments, and, from 1885, all over the Empire. From that year, the plague began to decrease; it appeared only in twenty-eight governments, where the annual average loss of cattle was 141,000 head, valued at $1,452,300. A still greater decrease was observed during the five years from 1890 to 1895; in fact, the disease was disappearing little by little, except in 1891 and 1892—the bad harvest years—when it again increased and invaded the Don region, spreading over the neighboring governments, where it disappeared only in 1894.

During the last five years, the loss caused by the cattle plague in the seven infected governments amounted, on an average, to 18,820 head, valued at $193,846, per year. Thus, the loss of cattle, from 1887 to 1895, was 253,000 head, worth $2,605,900. But if the plague had continued to rage at its former intensity, the loss in European Russia would have amounted to 1,620,000 head, valued at $16,686,000, so that, on account of the strict measures enforced by the Government, 1,367,000 head of cattle, worth $14,080,100, were saved to the country. Besides, the Government has paid to the owners of cattle killed the sum of $1,442,000 as indemnity.

Many objections were raised against the killing and burning of the infected animals, it being claimed that the plague would not cease and that the practice would lead only to ruin of the stock. That such fears were groundless is proved by the official report, which shows what great benefit the measures have secured to the country. From the experience in this country, the only effective measure against the cattle plague is the killing and burning of the infected animals and strict observance of the regulations.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 16, 1896.*

AUSTRALASIA: WOOL INDUSTRY—FISCAL CHANGES—INDUSTRIES AND TRADE OF NEWCASTLE, ETC.

DECREASE OF WOOL PRODUCTION.

For several months, it has been understood in Australian wool circles that the present clip of wool would show a substantial, if not very large, decrease compared with the previous clip. This decrease is the result of two causes. One is the disastrous drought in so many districts, which has just ceased. It prevailed for about twelve months throughout the greater part of New South Wales and through southern Queensland with extraordinary severity, and not only caused heavy losses of stock prior to shearing, but greatly impoverished the sheep which lived to be shorn and reduced the quantity of wool cut from them. How disastrous the drought has been will be seen from the fact that the stock statistics, just published, show that on December 31, 1895, the number of sheep in the colony of New South Wales was only 47,433,332, the decrease for the year amounting to 9,500,000. How very serious this falling off is may be understood from the following statement, showing the number of sheep at the close of each of the last ten years:

Year.	Number.	Year.	Number.
1882	36,114,814	1889	50,106,768
1883	37,915,510	1890	55,986,431
1884	31,660,321	1891	61,831,416
1885	37,820,906	1892	58,080,114
1886	39,169,304	1893	56,980,688
1887	46,965,152	1894	56,977,270
1888	46,503,469	1895	47,433,332

It will be seen that the falling off in 1895 of 9,500,000 is far beyond all precedent. The decrease during the drought of 1892 was less than 4,000,000, and even the great drought of 1884 only left New South Wales with 6,250,000 fewer sheep at the end of the year than at the beginning. True, all these sheep did not die nor were they slaughtered before the last shearing, but sufficient of them must have died before then to bring about a very large decrease in the 1895 clip.

The other cause of the decrease is the fact that the clip of 1894 was unduly augmented by the great shearing strike of that year, which, by delaying shearing, gave the clips of many stations thirteen months' growth instead of twelve. And, as in 1895, most stations returned to their normal dates of shearing, many of them had in 1895 only an eleven months' clip, against a thirteen months' clip in 1894. Both circumstances combined naturally produced a great falling off in the 1895 clip, compared with that of 1894.

But although the wool buyers who visited Australia this season have been brought into sufficiently close contact with the growers to believe that a decrease of some kind is an absolute certainty, yet a good deal of incredulity may still exist among some of the large wool consumers of Europe and America.

That there is some justification for this attitude of incredulity will be recognized when it is mentioned that, although many big decreases in the Australian clip have been foretold out here, there have been during the last twenty-three years only two years (1878 and 1884) in which the clip has actually shown a decrease compared with its predecessor, and even in these years of disastrous droughts, the decreases were small. And in these twenty-three years, the Australasian clip has increased from 554,000 bales in 1872 to about 1,970,000 bales in 1894. This is what may be termed the historical argument against a decrease, and the force of it is so great that consumers in Europe may perhaps be excused for not believing in the present cry of a decrease, with its necessary tendency toward higher prices, without some substantial evidence to support it.

And this attitude of incredulity receives some support from the following latest shipping figures, which show that the combined exports from the four leading wool-growing colonies on the continent of Australia only display a decrease of 31,000 bales compared with those for the corresponding period of 1894–95.

Australasian wool exports from July 1 to dates given.

Colony.	1895–96.	1894–95.	Increase.	Decrease.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria, to February 11	417,655	400,557	17,098	
New South Wales, to February 7	565,372	597,455		32,083
Queensland, to January 27	98,372	118,161		19,789
South Australia, to January 31	159,108	155,729	3,379	
New Zealand, to January 31	172,834	232,167		59,333
Total	1,413,341	1,504,069	20,477	111,205
Less increase				20,477
Net decrease				90,728

This decrease is made up by a decrease of 59,000 bales from New Zealand and of only 31,000 bales from the four leading wool-growing colonies of Australia.

There is just one other point to refer to. It may seem rather premature to discuss the prospects for the 1896 clip, when the quantity of the 1895 yield is not yet finally settled. But the unexpectedly very heavy losses in New South Wales sheep which the above figures reveal can not fail to direct the attention to the possibility of a further decrease of the 1896 clip, compared with even the attenuated clip of 1895. Going back for a comparison to the end of the previous drought, we find that New South Wales has now 10,500,000 sheep less than she had at the end of 1892. The year 1893 was a very good one, and yet the 58,080,114 sheep in existence at the beginning of 1893 only gave a clip of 964,000 bales. At the same rate, the 47,433,332 sheep in existence at the beginning of 1896 would only give a clip of 787,393 bales. This compares with the 1894 clip of 1,026,000 bales, and, allowing for the decrease, gives a clip of 861,000 bales in 1895. This would mean that the New South Wales clip of 1896 may be 239,000 bales less than the clip of 1894.

One method of assisting at the arrival of a conclusion on the subject is by making a comparison of the clips grown upon different stations during the two years in question.

With this object, returns have been obtained from the leading wool houses and a number of wool growers in the four colonies (New South Wales, Queensland, Victoria, and South Australia), showing the number of bales of wool grown on a very large number of stations in 1894 and also the bales grown on the same stations in 1895. These stations cut 767,000 bales in 1894 out of a total of about 1,563,000 grown in the four colonies named. Calculating what percentage the increases or decreases in 1895 bear to the clips of 1894, such percentages have been applied to the total quantity of wool estimated to have been grown in each colony during 1894, and the result has been taken as the basis of the estimate of the 1895 clip of each colony. This method of calculation brings out for Victoria, New South Wales, South Australia, and Queensland a total net decrease of 155,000 bales.

For New Zealand, information has been obtained from a very reliable source, estimating the decrease from that colony at from 30,000 to 40,000 bales. This leaves only Tasmania and Western Australia, from neither of which colonies is any material increase or decrease expected.

Taking the mean of the New Zealand estimate at 35,000 bales, gives for the whole seven Australasian colonies a total apparent decrease of 190,000 bales.

It is not, of course, contended that the system here adopted can be safely applied without some qualification, nor that, even with these qualifications, it could, by itself, give a close estimate of the decrease.

In estimating the unknown from the facts that are known, it is desirable to have, if possible, more than one independent method of arriving at the estimate and to compare the results; and, in this case, there have been received some important figures from the customs department of New South Wales, the colony from which the main decrease is expected. These figures show pretty clearly that the decrease from that colony is not likely to be very much under 150,000 bales.

The clip of New South Wales for 1894 amounted to about 1,026,000 bales. The bulk of it, say 620,000 bales, was shipped from Sydney and about 58,000 bales from Newcastle direct to Europe and America. About 42,000 bales were shipped from these two ports to Victoria, the total shipments from New South Wales of its own wool thus amounting to about 720,000 bales. In addition to this, about 247,000 bales were exported borderwise to Victoria and ultimately shipped from Melbourne or Geelong, about 57,000 bales were exported from South Australia, and about 2,000 bales from Queensland. It is clear, therefore, that if the exports can be compared borderwise for the two seasons, and also the exports by sea, it should be possible even now to form some idea of what the decrease is likely to be; and, by comparing the arrivals at Sydney and Newcastle, it should be possible to get still nearer the result.

The following information from the customs department of New South Wales shows the exports borderwise from July 31 to January 31 for the two seasons:

Exports.	1894-95.	1895-96.	Increase.	Decrease.
To Victoria from—	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Albury	31,590	29,847		1,743
Cobram	1,346	2,904	1,558	
Corowa	13,432	15,586	2,154	
Euston	2,980	2,174		806
Howlong	206	278	72	
Moama	102,814	75,964		26,850
Mulwala	7,558	6,949		609
Swan Hill	53,110	40,655		12,455
Tocumwal	2,046	4,709	2,663	
Wentworth	22,743	4,080		18,663
Total	237,825	183,146	6,447	61,126
Net decrease				54,679
To South Australia from—				
Wentworth	36,477	18,261		18,216
Broken Hill and Silverton	15,705	20,834	5,129	
Total	52,182	39,095	5,129	18,216
Net decrease				13,087
To Queensland from—				
Bogabilla	1,592	1,048		544
Net decrease in borderwise exports				68,310

And, in addition to this falling off of 68,000 bales in the exports borderwise, there appears to be a falling off in the arrivals at Sydney, Newcastle, and Morpeth of 66,000 bales.

This gives a net decrease in arrivals of 134,000 bales. From this, however, may be deducted about 6,000 bales for the additional quantity detained on the Darling on January 31 as compared with last year, though this will probably be counteracted by a small additional quantity of Queensland wool imported borderwise and included in the Sydney and Newcastle arrivals.

These figures, therefore, relating to the arrivals at the various New South Wales points of export strongly tend to confirm the estimate arrived at by a totally different method. Under the circumstances, it seems difficult to put the Australian decrease at much less than from 130,000 to 150,000 bales; this is in addition to the New Zealand decrease, estimated at from 30,000 to 40,000 bales more.

As regards the probable effect of this large shortage upon prices, it is to be borne in mind, on the one hand, that it has already been freely discounted in some quarters, especially by those manufacturers who, on the strength of it, have bought more freely in Australia than they would otherwise have done. But, on the other hand, it is doubtful if it has yet come home to the bulk of the consumers, especially in Yorkshire, who were rather reluctant to operate in merino wools at the high prices ruling in Australia during the season, for no actual falling off has yet taken place in the supplies marketed.

The following table shows the quantity sold in the three colonies up to date and the arrivals for the November and January sales:

Quantity sold in—	1895–96.	1894–95.	Increase.	Decrease.
	Bales.	*Bales.*	*Bales.*	*Bales.*
Victoria (October 1 to January 31)	307,307	315,797		8,490
Sydney (July 1 to January 31)	374,138	354,416	19,722	
Adelaide (to January 31)	80,116	62,871	17,245	
London arrivals:				
For November-December sales*	155,370	128,087	27,283	
For January sales†	250,000	238,706	11,294	
Total	1,166,931	1,099,877	76,544	8,490
Net increase of supplies to date			68,054	

*Including some old clip in each year. †Including Cape arrivals each year.

These figures make the case for short supplies much stronger. The point is, that the decrease in the present Australasian clip may amount to 160,000 or 180,000 bales. But this decrease has not yet been felt by consumers (although it may be believed in), because, up to now, there has not been any falling off in the supplies coming on the market. Indeed, the supplies show an actual increase of 68,000 bales; so that those consumers who have postponed their purchases and depend upon making them at the next four series of London sales—March, May, July, and September—will have to face a deficiency in these four series of from 200,000 to 250,000 bales compared with last year.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *February 15, 1896.*

NEW SOUTH WALES WOOL FOR 1895.

The export of wool from Australia and Tasmania for the year 1895 was 1,579,225 bales, as against 1,522,823 bales during the previous year. This increased export does not mean an increased production, as there was an unusual proportion of the former year's clip carried over and shipped in 1895. As a fact, the many vicissitudes through which all pastoral industries in Australia have passed during the last few years, leaves the wool grower little better off for 1896, though prices have advanced 2 cents per pound.

There will be a considerable falling off in the exports in the early months of 1896 as compared with the same months of last year, as on January 1, 1895, there were large lots held back by the wool growers, while on January 1 of this year the stations were practically clear.

This falling off in exports will be noticeable throughout the whole of 1896, and well-informed persons estimate the real shortage in the clip of 1895 at fully 16 per cent. The low price of wool, with local droughts and indications of a more extensive one in 1894 and the first part of 1895, led to an almost wholesale reduction in the number of sheep on the stations. During 1895, over 3,500,000 sheep were boiled down in New South Wales alone and fully 2,000,000 in the other Australian colonies.

As the number of sheep has been somewhat reduced and as much of the stock is rather thin, owing to poor pastures, unless the season should be unusually bad, there will be little boiling down done this year, and it is believed that the preserving and freezing works will handle fully 1,500,000 fewer sheep in 1896 than in 1895. This policy will further decrease the wool export for the early months of 1896 by some 30,000 bales, as little will come in until the regular shearing season. The indications are that exports will be comparatively light during the first months of 1896, and the whole year may show a decrease, as compared with 1895, of from 180,000 to 200,000 bales. This is the judgment of those whose province it is to be informed on these questions.

The actual clip of 1895 was really a short one, and there is little hope that the clip for 1896 will be any greater. In fact, should the shearing season be late and the usual portion of the clip be carried over to 1897, there will appear a considerable deficiency in this year's exports.

But there is another discouraging feature in the present outlook for the Australian wool trade. Owing to excessive droughts, there was an estimated deficiency in the drop of lambs in 1895 of about 7,000,000 in this colony alone, as compared with 1894. Including all Australasia, the deficiency of the lambs, it is believed, will reach approximately 10,000,000, or a drop of 18,000,000 lambs in 1895, against 28,000,000 in 1894. This is a serious matter, for not only did this cause a real deficiency of some 58,000 bales of lambs' wool for 1895, but it materially affected the average quality of the lambs' wool of the whole clip.

The following table is presented to show the magnitude of the wool industry in this colony, with 1,200,000 people, from 1891 to 1895, inclusive:

Year.	Number of sheep.	Wool.	Value.
		Pounds.	
1891	61,831,416	331,887,720	$52,912,886
1892	58,080,114	312,225,293	49,062,998
1893	56,980,688	318,782,858	46,448,292
1894	56,977,727	331,774,424	43,256,592

These 56,977,727 sheep in New South Wales are owned by 13,891 persons, according to Mr. Coghlan's latest statement, with a tendency, I am informed, toward smaller flocks.

Size of flocks.	Number of sheep owners.	Number of sheep owned.
1 to 500	5,999	1,093,508
501 to 1,000	2,327	1,770,455
1,001 to 2,000	2,062	3,050,107
2,001 to 5,000	1,667	5,264,700
5,001 to 10,000	725	5,114,109
10,001 to 20,000	408	6,844,167
20,001 to 50,000	483	15,125,070
50,001 to 100,000	151	10,366,501
Over 100,000	69	8,348,653
Total	13,891	56,977,270

There is an average of nearly fifty sheep per capita for the population of the colony, and upon the price of this product depends the prosperity of the colony.

GEO. W. BELL,
Consul.

SYDNEY, *January 24, 1896.*

FISCAL CHANGES IN NEW SOUTH WALES.

By a recent act of Parliament, the fiscal policy of this colony has been changed, the new law to go into operation on the 1st of January, 1896. From and after that time, it is claimed that Sydney—the tenth city in the world in commercial importance, I believe—will be a free port, though this claim needs to be somewhat modified.

Considering the hold that protection has upon the affections of so large a proportion of the people throughout the civilized world, and the adoption of that policy by so many of the governments of Christendom, this change will be regarded with curious and inquisitive interest by most educated people among the commercial nations.

To make this review, which I regard as very useful to the commercial interests of the people of the United States, perfectly intelligible, it is necessary to remember that Australia is about equal in superficial area to the whole of the United States, aside from Alaska, and that, politically, it is divided into seven distinct colonies, or self-governing states, which are commercially as separate and distinct as are the United States and Canada, France and Belgium, or Turkey and Russia.

Not only are these colonies separate, independent, and entirely disconnected politically, but each has a fiscal policy and scale of duties so peculiarly its own as to cause the most vexatious confusion in all trade relations, whether between the colonies themselves or between them and the outside world. In geographical divisions, population, industries, and resources, the colonies do not materially differ from our States, but, politically and commercially, there are the same differences as would exist in the United States if every State line were guarded by government officials and custom-houses to enforce widely different and conflicting tariffs.

Whatever may be the relative merits of the opposing policies of free trade and protection, the great differences, inequalities, and conflicting laws establishing and regulating seven different fiscal systems in a country with but 4,000,000 of identically the same people have certainly been a serious obstacle in the way of trade, both foreign and domestic.

To illustrate the commercial conflicts between the different communities of British subjects, I will take a list of twenty articles, or classes of articles, which constitute the chief imports into the colonies from the United States, with the duty on each in the six different colonies of continental Australia. The first column gives the duty in this colony under the present law; under the law just passed by her Parliament, these articles are "free."

Articles.	New South Wales.	Queensland.	South Australia.	Tasmania.	Victoria.	Western Australia.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Brushes	10	25	25	15	35	10
Carriages and materials	15	*40	*50	25	*50	20
Druggists' and apothecaries' ware	10	25	10	20	....	15
Fish, preserved	*10	*20	*10	15	*20	*10
Furniture and upholstery	10	25	25	15	40	20
Hardware	10	25	25	15	45	15
Iron and steel	*10	*25	*30	15	*35	*12
Kerosene	*80	*80	*40	*80	....	*25
Machinery	10	25	20	7½	35	5
Leather	10	20	20	18	35	15
Malt	....	*40	*40	*10	*40	*30
Sewing machines	....	....	....	5	....	5
Silver-plated ware	15	25	25	20	40	20
Timber (lumber)	30	30	35	35	35	15
Tobacco, cigars, etc	*80	*80	*50	*60	*40	*50
Turpentine	....	*30	*30	*60	....	*30
Watches and clocks	15	15	15	20	20	10

* Only approximate, as there are under these heads several subclasses, with specific duties, the calculations being based as largely as possible on invoice values.

The commercial importance of this colony may be approximately estimated by a reference to my report on the "Commercial importance of

Sydney."* But here, again, let me remark that Sydney is the metropolis of Australasia, the terminus of all the steamship lines coming to or leaving the Australian continent; that it is the fourth purely British port in the value of its tonnage, the seventh in the whole British Empire, and about the tenth in the world; that the people of New South Wales have a larger per capita foreign commerce than any other people on the globe, and that 5,800 entries and departures of vessels are engaged in handling an annual total tonnage of 5,193,328 tons, valued, approximately, at $170,000,000.

The foregoing table shows the classes of American goods sold in this colony, and the following shows the trade with all countries, other than Great Britain and her possessions, for the year 1894:

Country.	Imports.	Exports.			Excess of—	
		Domestic produce or manufacture.	Other produce or manufacture.	Total.	Imports.	Exports.
Austria	£1,304	£423		£423	£881	
Belgium	115,119	1,034,042	£87,780	1,121,822		£1,006,703
Brazil	20				20	
Chile	38	142,193	6,162	148,355		148,317
China	131,006	5,695	1,886	7,581	123,425	
Ecuador		1,442		1,442		1,442
Egypt	4,744	609	2	611	4,133	
France	70,649	950,210	117,230	1,067,440		996,791
New Caledonia	25,171	24,451	48,281	72,732		47,561
Tahiti		639	80	719		719
Germany	345,364	831,630	85,680	917,310		571,946
Kaiser Wilhelm's Land		1,991	969	2,960		2,960
Marshall Island		1,665	5,604	7,269		7,269
Neu Pommern (New Britain)	4,868	1,716	8,056	9,772		4,904
Greece	3,894				3,894	
Guam			6	6		6
Hawaiian Islands		19,738	2,654	22,392		22,392
Italy	24,124	16,624	11,024	27,648		3,524
Japan	27,468	14,050	1,252	15,302	12,166	
Macao	2,396				2,396	
Mexico		4,741	17	4,758		4,758
Netherlands		29,803	5,774	35,577		35,577
Java	40,546	12,632	283	12,915	27,631	
Norway	29,193				29,193	
Panama		6,507		6,507		6,507
Peru		15,240	50	15,290		15,290
Russia		165		165		165
Siam		10		10		10
South Sea Islands	28,354	12,085	57,808	69,893		31,008
New Hebrides	10,531					
Spain:						
Caroline Islands		424	584	1,008		1,008
Philippine Islands	7,982	34,558	105	34,663		26,681
Transvaal			2,360	2,360		2,360
Turkey	730				730	
United States	542,427	244,163	130,378	374,541	167,886	
Total	1,415,928	3,407,446	574,025	3,981,471		2,565,543

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* Printed in CONSULAR REPORTS No. 168 (September, 1894), p. 31.

The total imports into the colony for the same year were £15,801,941 ($76,892,245) and the total exports £20,577,673 ($100,130,957), which shows that the trade is largely monopolized by Great Britain and her possessions.

Ad valorem duties were abolished in 1887, but were reimposed by the Dibbs ministry in 1891, and instead of the old scale of 5 per cent being restored, a new rate of 10 and 15 per cent was adopted. The latter rate, however, embraced but seventeen articles, while 10 per cent was charged on all other articles not in the specific-duty list or on the free list.

The following is a list of the specific duties imposed by the tariff act of 1892, as now on the statute book, but which are to be "swept away," to use the words of the present Premier, by the law before referred to:

Specific duties.

	£	s.	d.
Arrowroot, baking powder, yeast, custard and egg powders, self-raising flour, barley (prepared or patent), patent groats, corn flour, maizena and farinaceous foods prepared (not being wheaten flour or oatmeal or otherwise exempt), fish (dried, preserved, or salted), fish paste, meats (poultry, soup, and game, potted paste, dried or preserved, and not otherwise charged), fruit (boiled or in pulp), peel (drained or dry), almonds, gelatin, glue, size, honey, milk (condensed or preserved), blasting powder, dynamite, lithofracteur, starch and starch powder, rice flour and ground rice, semolina, vegetables (preserved and not otherwise charged, salted in brine or salt water), mushrooms and tomatoes (preserved), wax and stearin..per pound...	0	0	1
Candles and night lights.. do......	0	0	1½
Biscuits, bacon (cured, partially cured, or green), cheese, hams (ham and potted ham), meat extract, butter and lard, confectionery (cakes, comfits, licorice, licorice paste, lozenges, cocoanut in sugar, sugar candy, succades, sweetmeats), fruits (dried, candied, and prunes), jams and jellies, preserved and canned fruits, fancy soap..per pound...	0	0	2
Sporting powder, sheep-wash tobacco, chicory (raw or kiln-dried).......do......	0	0	3
Chocolate and chocolate creams, cocoa or cocoa paste.....................do......	0	0	4
Butterin and olemargarine, chicory, dandelion and taraxacum (roasted, ground, or mixed), coffee (roasted, ground, or mixed)..........................per pound...	0	0	6
Opium and any preparation thereof..do......	0	20	0
Cement, plaster, and hydraulic lime....................................per barrel...	0	2	0
Green fruit (except bananas and pineapples)..........................per bushel...	0	1	0
Tobacco:			
Unmanufactured, entered to be manufactured in the colony into tobacco, cigars, and cigarettes..per pound...	0	1	0
For home consumption (manufactured, unmanufactured, and snuff), per pound..	0	3	0
Cigars and cigarettes..per pound...	0	6	0
Barley, beans, maize, oats, pease (dried and split), wheat...per 100 pounds...	0	0	10
Flour, bran, pollard, and sharps..do......	0	1	0
Hay, chaff, and straw...per ton...	0	10	0
Onions..do......	0	20	0
Potatoes...do......	0	10	0
Oatmeal..do......	0	40	0
Rice..do......	0	60	0
Salt (except rock salt)..do......	0	20	0

		£	s.	d.
Vegetables (fresh)	per cwt	0	1	0
Acetic acid	per gallon	0	2	6
Aërated and mineral waters in pints and smaller quantities	per dozen	0	0	6
Beer, ale, porter, spruce, or other beer, cider, and perry:				
In wood or jar	per gallon	0	0	6
In bottles	do.	0	0	9
For 6 reputed quarts or 12 reputed pints	do.	0	0	9
Cordials and wines not containing spirits (balm sirups, fruit essences not spirituous, lime fruit and lime-juice cordials, citronade, raspberry vinegar, aromatic vinegar, raspberry, strawberry, and other fruit acids):				
Reputed quarts	per dozen	0	1	6
Pints and smaller quantities	do.	0	0	9
Fruits (bottled, not containing spirits):				
Reputed quarts	per dozen	0	2	0
Reputed pints and smaller quantities	do.	0	1	0
Spirits	per proof gallon	0	14	0
Bitters, essences, fluid extracts, sarsaparilla, tinctures, medicines, infusions, and toilet preparations:				
Containing not more than 25 per cent of proof spirit	per gallon	0	3	6
Containing not more than 50 per cent of proof spirit	do.	0	7	0
Containing not more than 75 per cent of proof spirit	do.	0	10	6
If containing more than 75 per cent of proof spirit	do.	0	14	0
Methylated spirit	do.	0	1	0
Perfumed spirits, perfumed waters, Florida water, and bay rum	do.	0	20	0
Varnishes:				
Containing spirit	do.	0	2	0
Not containing spirit	do.	0	1	0
Vinegar, other than aromatic or raspberry	do.	0	0	6
Wines:				
Sparkling	per 6 reputed quarts or 12 reputed pints	0	10	0
Other kinds	do.	0	5	0
Naphtha and gasoline	per gallon	0	0	6
Oils:				
Except linseed oil raw or boiled, sperm and black whale, palm, and cocoanut	per gallon	0	0	6
In bottles, except essential oils—				
Reputed quarts	per dozen	0	1	6
Reputed pints	do.	0	0	9
Reputed half pints and smaller sizes	do.	0	0	6
Oilmen's stores (sauces and pickles):				
Quarts	do.	0	1	0
Pints and smaller sizes	do.	0	0	6
Grease, axle and lubricating	per ton	0	60	0
Paints and colors ground in oil	do.	0	60	0
Dry colors	do.	0	30	0
Putty	do.	0	20	0
Soap, other than fancy	per cwt	0	3	0
Soda crystals	per ton	0	40	0
Sulphuric acid	per cwt	0	2	6
Iron:				
Bolts, spikes, nuts, rivets, screws, bolt rings, washers (plain or galvanized)	per ton	0	40	0

		£	s.	d.
Iron—Continued.				
Galvanized—				
In bars, sheets, bundles, or corrugated	per ton	0	40	0
Manufactures, not being parts of machines, or otherwise charged or exempt	per ton	0	60	0
Wire netting	do.	0	30	0
Pig (from January 1, 1893)	do.	0	10	0
Lead:				
Pipe	do.	0	60	0
Sheet and roll	do.	0	40	0
Shot	per cwt.	0	5	0
Zinc, perforated or manufactured	do.	0	3	0
Paper:				
Brown and wrapping	do.	0	3	0
Bags—				
Printed	do.	0	15	0
Plain	do.	0	7	6
Advertising matter (circulars, labels, billheads, posters, and notices, printed, enameled, or otherwise on any material or lithographed)	per cwt.	0	15	0
Playing cards	per dozen packs	0	3	0
Rope cordage	per ton	0	60	0
Twine and lines, except twine for reapers and binders	do.	0	60	0
Sugar:				
Refined	per cwt.	0	6	8
Raw	do.	0	5	0
Molasses and treacle	do.	0	3	4
Glucose—				
Liquid and sirup	do.	0	3	4
Solid	do.	0	5	0
Timber:				
Dressed	per 100 superficial feet	0	3	0
Rough and undressed, with the exception of hickory, oak, sandalwood, and sycamore	per 100 superficial feet	0	1	6
Palings	per 100	0	1	0
Laths	per 1,000	0	0	9
Shingles	do.	0	1	0
Pickets, dressed	per 100 superficial feet	0	3	0
Doors, sashes, and shutters	each	0	2	0
Billiard tables and billiard-table materials, carpets, silks, satins, lace, furs, kid gloves, velvets, rugs, gold and silver plate and plated ware; carriages (whole or in parts), including buggies, barouches, chaises, dogcarts, gigs, and tilburies; china and porcelain ware, jewelry and precious stones, musical instruments and parts thereof, watches and clocks and parts thereof; pictures, paintings, and statuary; portmanteaus, traveling bags, and dressing cases (with or without fittings)	for every £100 on the value	15	0	0

At the general elections which took place on the 17th of July, 1894, the fiscal policy was the chief, if not indeed the only, issue; and especially was there a bitter war waged against the specific duties. The campaign was vigorously fought and ably managed. Mr. George H. Reid, the leader of the opposition, declared for a "clean sweep of the Dibbs tariff" and the substitution of a direct tax on land and on incomes.

The issue was sharply drawn, and "protection" was inscribed on the banners of the ministerial party, led by the then Premier, Sir George Dibbs, while the aggressive opposition, led by Mr. Reid, now Premier, fought under the banner of "free trade." The Free Traders won the battle in that election, as there were 63 Free Traders, 40 Protectionists, and 22 labor members, mostly with free-trade leanings, returned.

On the reassembling of Parliament, Sir George Dibbs was confronted with a large majority, and Mr. George H. Reid was called to form a government on the lines suggested by the issues of the campaign.

The Council, or "upper house," consisting of Crown nominees for life, rejected the measures suggested by Mr. Reid and passed by the Assembly by an overwhelming majority, and Mr. Reid dissolved Parliament on July 6, 1895, and appealed to the country. The election was held on July 24, and again the issues, as set forth in the measures, were fought out vigorously. The great leader of protection, Sir George Dibbs, with several of his ablest followers, was defeated, and the so-called Free Trade party came back, much stronger than before. Thus, it was claimed that the mandate of the people, declaring for free trade and direct taxation, had been reaffirmed, and on the reassembling of Parliament, on August 13, the same measure, as passed by the Assembly and rejected by the Council, was again presented and passed by the Assembly by a majority of 50 to 26, and again went to the upper house. Again it was met with great hostility, but the Government party in that chamber, having been augmented by ten new appointments, the temper of the house was softened and the bill was passed with some two hundred and fifty amendments. As the Assembly could only accept some eighty of these without yielding material points, or, as they called it, "principle," a conference was suggested, which, after several days of discussion, agreed to a modified measure, embracing the principle of free trade, as interpreted in this colony, and direct taxation, and the new law goes into effect, as above stated, on January 1, 1896.

It may be well here to remark that there are a few articles, notably raw sugar, glucose, molasses, and treacle, upon which the duty will be removed gradually, so as not to wantonly disturb vested interests, but, with these exceptions, the change is a very sweeping one.

The following is a full text of the late act, which received legal assent on December 12, 1895. It is a marvel of brevity and clearness.

AN ACT FOR THE ESTABLISHMENT OF A NEW TARIFF OF CUSTOMS DUTIES AND FOR PURPOSES CONNECTED WITH, CONSEQUENT UPON, AND INCIDENTAL TO THE PURPOSE AFORESAID (ASSENTED TO DECEMBER 12, 1895).

Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled and by the authority of the same, as follows:

(1) This act may be cited as the "customs duties act of 1895."

(2) The import duties mentioned in Schedule A, hereto annexed, shall be levied and collected upon the importation of all goods therein mentioned and upon all such goods in bond, which duties shall be in lieu of all duties heretofore chargeable thereon.

(3) Subject to the qualifications and provisions in the two next following sections of this act expressed, the customs duties act of 1892 is hereby repealed, but the repeal thereof shall not affect the past operation of the said act nor anything lawfully done or commenced thereunder.

(4) Upon all goods specified or mentioned in Schedule A of the said customs duties act of 1892 which are not specified or mentioned in Schedule A of this act and which are not specified or mentioned in the next following section of this act, the respective duties authorized to be levied and collected by the said act of 1892 shall continue to be levied and collected until the 31st of December, 1895, and no longer. And upon all goods liable under the said act of 1892 to ad valorem duties, such duties shall be levied and collected until the 31st of December, 1895, and no longer. And for the purpose of levying, collecting, and enforcing payment of all duties mentioned and referred to in this section, the provisions of the said act of 1892 shall be applied, notwithstanding anything contained in the last preceding section of this act.

(5) The duties authorized to be levied and collected by the customs duties act of 1892 upon butter (which shall, however, be levied at the rate of 1d. per pound only), cement, plaster, and hydraulic lime, cheese, bacon, and ham, chicory; dandelion and taraxicum, roasted, ground, or mixed with any other article; chocolate, plain or mixed with any other article; chocolate creams, corn flour, and maizena; cocoa, prepared, paste, or mixed with any other article; coffee, roasted, ground, or mixed with any other article (except coffee essence); fish, dried, preserved, or salt; iron, galvanized, in bars, sheet, or corrugated; galvanized wire netting; milk, condensed or preserved; sporting powder, shot, rice, salt; timber dressed and undressed, doors, sashes, and shutters, respectively, shall continue to be levied and collected under the said act until and inclusive of the 30th of June, 1896. And for the purpose of levying, collecting, and enforcing payment of all duties mentioned in this section, the provisions of the said act of 1892 shall be applied, notwithstanding anything contained in the second section of this act.

(6) All contracts made on or before the 9th of May, 1895, for the sale or delivery of any duty paid imported goods otherwise than in bond, the duty on which is decreased by this act, shall be subject to a decrease in the contract price of such goods corresponding in rate and amount with the amount of such decrease of duty as aforesaid.

(7) It shall be lawful for the governor, with the advice of the executive council, to frame and adopt regulations authorizing and providing for the refund of duties paid after the commencement of this act on articles imported which have been used in the colony in manufacturing processes; provided, always, that such refund shall only be made when the article manufactured in the colony does not belong to a class of goods liable to duty on importation; provided, also, that all such regulations shall be published in the Gazette and laid before both houses of Parliament.

(8) All goods imported for the supply of Her Majesty's service shall be exempt from all duties and imposts of every description whatsoever, and nothing in this act contained shall be deemed to alter or repeal the provisions of the customs regulation act, 1879.

(9) All powers and authorities conferred by the customs regulation act in force for the time being upon the collector or any other officer of customs may be exercised and enforced by such officers in the administration of this act.

The following list embraces what is termed the fixed or permanent tariff under the new law, which, it is believed, will be left by all parties as the policy of the country and will constitute the entire business of the custom-house. The duties are all specific.

Permanent tariff.

		s.	d.
Spirits:			
On all kinds of spirits and spirituous compounds imported and not otherwise enumerated	per proof gallon...	14	0
(No allowance beyond 16.5 shall be made for the underproof of any spirit of less strength than 16.5 underproof. Case spirits, contents of 2, 3, 4, or 5 gallons shall be charged—2 gallons and under as 2 gallons; over 2 gallons and not exceeding 3, as 3 gallons; over 3 gallons and not exceeding 4, as 4 gallons; over 4 gallons and not exceeding 5, as 5 gallons.)			
Bitters, essences, fluid extracts, sarsaparilla, tinctures, medicines, infusions, and toilet preparations containing—			
Not more than 25 per cent of proof spirit	per gallon...	3	6
Not more than 50 per cent of proof spirit	do......	7	0
Not more than 75 per cent of proof spirit	do......	10	6
If containing more than 75 per cent of proof spirit	do......	14	0
If containing spirit overproof, to be charged as spirituous compounds, per proof gallon		14	0
Methylated spirit	per gallon...	0	1
Perfumed spirits, perfumed waters, Florida water, and bay rum, per liquid gallon		20	0
Wines:			
Sparkling	per 6 reputed quarts or 12 reputed pints...	10	0
Other kinds	per gallon...	5	0
Do	per 6 reputed quarts or 12 reputed pints...	5	0
Beer, ale, porter, spruce, or other beer, cider, and perry:			
In wood or jar	per gallon...	0	6
In bottles	do......	0	9
For 6 reputed quarts or 12 reputed pints	do......	0	9
Tobacco:			
Delivered from ship's side or from a customs bond for home consumption, manufactured, unmanufactured, and snuff	per pound...	3	0
Unmanufactured, entered to be manufactured in the colony (at the time of removal from a customs bond or from an importing ship to any licensed tobacco manufactory for manufacturing purposes only in tobacco, cigars, and cigarettes)	per pound...	1	0
Sheep wash	do......	0	3
Cigars and cigarettes (including wrappers in latter case)	do......	6	0
Opium and any preparation thereof	do......	20	0

Diminishing duties.

		s.	d.
Candles, per pound or reputed package of that weight, and so in proportion for any such reputed weight, night lights, and stearin	per pound...	0	1
From July 1, 1897	do......	0	0½
From July 1, 1899		Free.	
Oil, kerosene, naphtha, and gasoline	per gallon...	0	6
From July 1, 1896	do......	0	3
From July 1, 1897		Free.	
Oils, except linseed oil (raw or boiled), fish and seal oils, black whale, cocoanut, sperm, palm, and essential oils	per gallon...	0	6
From July 1, 1896	do......	0	3
From July 1, 1897		Free,	

		s.	d.
Sugar:			
Refined	per cwt	6	8
From July 1, 1897	do	5	4
From July 1, 1898	do	4	0
From July 1, 1899	do	2	8
From July 1, 1900	do	1	4
From July 1, 1901		Free.	
Raw, and solid glucose	per cwt	5	0
From July 1, 1897	do	4	0
From July 1, 1898	do	3	0
From July 1, 1899	do	2	0
From July 1, 1900	do	1	0
From July 1, 1901		Free.	
Molasses and treacle—glucose, liquid, and sirup	per cwt	3	4
From July 1, 1897	do	2	8
From July 1, 1898	do	2	0
From July 1, 1899	do	1	4
From July 1, 1900	do	0	8
From July 1, 1901		Free.	
Biscuits	per pound	0	1
From July 1, 1898	do	0	0½
From July 1, 1900		Free.	
Confectionery (including cakes, comfits, licorice, licorice paste, lozenges of all kinds, cocoanut in sugar, sugar candy, succades, and sweetmeats)	per pound	0	2
From July 1, 1898	do	0	1
From July 1, 1900		Free.	
Fruits, dried, candied, and prunes (exclusive of dates)	per pound	0	2
From July 1, 1898	do	0	1
From July 1, 1900		Free.	
Jams and jellies, per pound or reputed package of that weight, and so in proportion for any such reputed weight	per pound	0	1
From July 1, 1898	do	0	0½
From July 1, 1900		Free.	
Preserves and canned fruits, boiled, peel drained, or dry	per pound	0	1
From July 1, 1898	do	0	0½
From July 1, 1900		Free.	

It thus appears that the principle of direct taxation has impressed itself upon the people of this country. While there was much opposition to direct taxation, wholly by the protectionists, there was no criticism as to the methods of applying it. If the principles of direct taxation were to be applied, all seemed to agree that the "unimproved value of land" was the proper source from which to secure the needed revenue.

The direct tax, then, after January 1, 1896, will be "one penny in the £" (2 cents in $4.866) on the "unimproved value" of all land, subject to an exemption of £240 ($1,168), and a tax of "sixpence on the £" (12.15 cents in $4.866) for all incomes, subject to an exemption of £200 ($973.20). The land tax, as computed by us, would be about a 4-mill tax, while the income tax would be about 0.01⅕ per cent.

There seems at this writing to be strong confidence that a revival of business is assured in the early future, though to a stranger there seems little to inspire such a hope.

GEO. W. BELL,
Consul.

SYDNEY, N. S. W., *December 23, 1895.*

INDUSTRIES AND TRADE OF NEWCASTLE.

SITUATION AND IMPORTANCE.

Newcastle, N. S. W., is situated at the mouth of the Hunter River, and is distant by sea about 60 miles from Sydney, in a north by east half easterly direction. It is in latitude 32° 55′ 20″ south and longitude 151° 50′ 20″ east. It is the second city of importance in the colony, and, for many years, has claimed the distinction attaching to the greatest coal port in the southern hemisphere.

NEWCASTLE HARBOR.

Newcastle possesses some 5 miles of wharves, alongside of which vessels of the highest class and tonnage may load or discharge cargo. The area of the harbor available for ships is 450 acres, and an inner basin is now being dredged and otherwise improved which will increase this space by 90 acres, raising the total area available to 540 acres. In addition to the berthing accommodation at the wharves, there is mooring accommodation in the lower harbor for thirty-five vessels. The width of the channel at the entrance to the harbor is 1,200 feet, the depth of water on the bar is 25½ feet, and the depth in the harbor is sufficient for ships with a draft of 24½ feet. The Nobbys light-house stands at the harbor mouth, the entrance of which is protected from the effects of south and southeasterly gales by a breakwater running out in an easterly direction 1,700 feet from the light-house. On the north, there is also a breakwater about 1,200 feet long.

Toward the end of last year the Legislative Council and the Legislative Assembly approved of a comprehensive scheme for improving the harbor, and the work, which is to cost $686,167, is now being proceeded with. It is intended, among other things, to extend the southern breakwater 200 feet and to reconstruct the northern breakwater, making it in all 3,000 feet in length. The effect of these additions and alterations will be to still further and more effectually protect vessels entering port during boisterous southerly weather from the heavy seas that break across the entrance, and, by promoting a strong scour in the channel, to force the bar, which consists chiefly of sand, gradually seaward, and ultimately cause it to disappear altogether. It is hardly necessary to add that the realization of these anticipations, which are based upon the judgment of the leading engineer experts of New South Wales, will very materially add to the high reputation which Newcastle already enjoys as a safe and commodious port.

The greatest difficulty that the harbors and rivers branch of the public works department has to contend with is the accumulation of silt, which is daily taking place, and which, in times of floods in the Hunter River and its tributaries, is naturally of abnormal dimensions. There are now employed in the harbor nine dredges of different kinds. The *Newcastle* works three shifts of eight hours each, and the average output of silt is 7,000 tons per day; the *Sampson* works two shifts, or sixteen hours, and her average is 4,000 tons per day; the *Vulcan*, working eight hours, puts out an average of 1,300 tons daily; the *Jupiter* is deepening the new basin before referred to and reclaiming the swampy portions of the township of Carrington with the sand raised; the *Juno* is deepening the north harbor and similarly reclaiming portions of the township of Stockton; two steam rock cutters are engaged in removing rocks in several parts of the harbor, and the grab dredge *Nu* lifts the débris and lands it. The total output of silt by the dredges for the year ending December 31, 1895, approximated 1,750,000 tons, the greater portion of which was taken out to sea in punts and there discharged.

INDUSTRIES OF NEWCASTLE.

The industries of Newcastle include a steam biscuit factory, copper smelting works, a brewery, shipbuilding yards, foundries, carriage factories, and a boot factory. Another most important addition to these is about to be made by the erection, on an extensive scale, of smelting works for the treatment of silver ore from Broken Hill by the Ashcroft process. A company termed the New Sulphide Corporation, in which the house of Rothschild holds a large interest, has purchased a site at Cockle Creek, about 12 miles from Newcastle, and the work of clearing the land for the buildings (which, with the machinery, will cost some $290,000) is now being proceeded with. When the works are in full swing, they will give employment to between 1,500 and 1,600 men, and, directly and indirectly, they will increase the demand for our coal by about 10,000 tons weekly.

ELECTRIC LIGHTING.

Newcastle is lighted by electricity, which superseded gas in 1891. The main streets are illuminated with twenty-two Brockie-Pell arc lamps which are hung in the center of the thoroughfares from wire cables. Each lamp is of 500 candlepower. In the side streets, are placed at suitable intervals incandescent lamps of 25 candlepower each. The system is under the control of the municipal council, and, on the whole, may be considered fairly successful. The council intend floating a loan shortly to enable them to remove the works to larger and more substantial premises in a more central position and to so enlarge the plant as to permit of the extension of the lighting to private houses and business places. At present, private utilization of the system is extremely limited, owing to the fact that the capabilities of the machinery are fully taxed to supply the light for public purposes. The plant now in use comprises two Westinghouse compound engines, with a pressure of 125 pounds to the square inch, and one battery of two boilers of 86 horsepower by Badcock & Wilcox, which gives sufficient power for 1,500 lamps of 25 candlepower.

POPULATION.

The population of Newcastle, according to the census taken in 1891, was 31,863, and that of the county of Northumberland—the mining district—was 24,703. There were 285 Chinese in both electorates. The population of both electorates in 1881 was 30,369, showing that in the decade an increase of no less than 26,197 took place.

COAL MINES AND COAL TRADE.

Mines.—There are twenty-five collieries opened up and developed in the district, but five of these have suspended operations for various reasons. The coal trade, upon which the city and district mainly depend, gives employment to about 6,000 miners and about 1,000 other employees, most of whom work above ground. The mines lie to the north, south, and west of Newcastle at varying distances, ranging from half a mile to 30 miles, and all except Stockton are connected with the Government railway line. Wherever a colliery has been established and worked for any length of time, settlements have followed, and thus there are in the vicinity of Newcastle a number of populous, and, in normal times, fairly prosperous townships, nearly all of which are connected with the city by an efficient tramway service, the wants of the rest being met by a coach or omnibus system.

The method of loading coal into ships is one of the most complete and satisfactory to be found in any part of the world. The mineral is carried from the mines in iron hopper wagons, containing about 8 tons each, over the Government railway lines to the water's edge at the dike at Bullock Island. The appliances in use there, which are worked by contract under the direction and supervision of the Government railway commissioners, include twelve hydraulic and three steam cranes. The dike is lighted by electricity and so brilliantly that the work is carried on at night with as much ease and dispatch as during daylight.

Coal trade.—The coal trade of the district is now, and has been for some months past, in a flourishing condition, so far as that can be gauged by the quantity exported to foreign and intercolonial ports, but the low price at which the mineral is sold in a great degree nullifies the advantage derivable therefrom. For some years prior to 1893, the several coal proprietors were enrolled in an association which had for its object the equalization of the trade of each colliery and the maintenance of the price of coal at a certain figure. The value of best round coal was fixed in January, 1883, at $2.68 per ton, and remained at that rate until the end of 1891. Owing to the strikes of 1888 and 1890, a great portion of the trade was diverted from Newcastle, especially the foreign trade, and in order to recover it, the price was lowered in January, 1892, to $2.43 per ton. A further reduction was, however, found to be necessary, and in July, 1893, 24 cents per ton was taken off the value. Soon afterwards, the Colliery Proprietors' Association was broken up, and since that time competition of the keenest description between the coal proprietors has prevailed. The nominal price just now is $1.70 to $1.82 per ton for best round coal, but a very considerable quantity is being shipped at rates much below these. On each occasion when the strikes of 1888 and 1890 laid the mines idle for three months the production of coal in Japan and British Columbia was stimulated, and the effect to Newcastle has been the loss of nearly the whole of her trade in the East to the Japanese and the appropriation by the British Columbian mines of much of the San Francisco market. The development of the coal measures of the adjoining colony of Victoria has also worked some injury to Newcastle by cutting into the virtual monopoly of the Victorian market, which Newcastle formerly held. The coal produced in that colony is of poor quality and gives results exceedingly inferior to those obtained from the coal in this district, but the Victoria Government, anxious to foster the industry, affords numerous advantages to the local product which are not available to the mineral from Newcastle, and thus assist it to the partial exclusion of the latter. Despite these difficulties and drawbacks, the export to both foreign and intercolonial ports showed, during last year, decided increases over the quantities shipped for the twelve months ending December 31, 1894, due, without any doubt, to the low prices at which the coal was sold, and also to the moderate shipping freights that ruled.

Large as the output from the mines was last year, there is reason to believe that it will be exceeded during the current year. Since the 1st of January, nearly all the collieries have been working full, or almost full, time, and as an instance of the activity of the trade it may be mentioned that for the week ending on the 29th ultimo, the quantity shipped to ports outside of New South Wales was 55,332 tons. In addition to this total, a considerable quantity was loaded into coasting vessels for consumption in Sydney and elsewhere in the colony.

The total export of coal last year was 1,920,378 tons. The harbor is just now crowded with shipping, and as the list of vessels to arrive contains about one hundred names, and as some of these reach port the names of others are being constantly added, the prospect of regular work at the mines for months to come is assured.

Threatened strike.—Unfortunately, however, one of the labor disturbances which have in the past inflicted so much injury upon the city and district is, at the time of writing, threatening. At a meeting of the miners held on the 29th ultimo, it was resolved that a general demand be made upon the coal owners for an advance in the hewing rate from 73 cents to 85 cents per ton. A natural consequence of the repeated reductions in the price of coal was a proportionate decrease in the rate paid to the miner. When coal was sold at $2.68 per ton, the miner received a hewing rate of $1.01 per ton. With each successive fall of 24 cents in the price, the hewing rate was lowered 8 cents per ton, and now it ranges from 73 cents downwards. The miners accompanied their demand with an intimation that unless the increase were granted, a ballot among them would be taken as to whether they should cease work until their terms were conceded and if a two-thirds majority was found to favor such a course, a general strike would follow. The reply of the proprietors is asked for not later than the 17th instant, and if in the negative, the ballot will then commence and the result will be announced on the 23d instant. To accede to the demand of the miners, would entail the raising of the price of coal by the owners to $2.19 per ton, an act which, it is firmly believed, would lead to the alienation of the bulk of the trade, and there seems to be but little probability of that course being adopted. The strike, if it does take place, will probably be a short and abortive one, for the Miners' Association is without any funds worth speaking of and can have no hope of financial assistance from other labor bodies in Australia, most of which are in a similar plight. Also, the labor market is glutted, and there would not be much trouble in securing as many men as would be required to work the mines independently of the strikers.

WOOL TRADE.

Next to coal, the most important item of Newcastle exports is wool. This trade, so far as concerns Newcastle, is one of comparatively recent origin, all the wool produced in the north and northwestern parts of the colony in former years having been shipped at Sydney. To show how the enterprise has progressed, it is only requisite to state that, notwithstanding the very severe drought of last year, which decimated the flocks and reduced the weight of the fleeces, there were shipped for the year ending on the 31st of December, 1895, 49,900 bales of wool to Great Britain and 5,990 bales to Victoria, a total of 55,890 bales, valued at $2,849,846.73.

MEAT AND OTHER EXPORTS.

Frozen mutton and beef are also exported to a large extent, the quantities shipped during last year being, of the former, 53,302 cwts., and of the latter, 23,213 cwts. The export of preserved meat was 669,126 pounds, and other exports were bone dust and manures, coke, and tallow. The trade in the dispatch of live stock (bullocks and sheep to New Caledonia, Fiji, and other countries, and of horses to India) is growing, and will, it is hoped, before long attain considerable proportions. During last year, 3,768 vessels entered and 3,746 vessels left the port.

ADVANTAGES AS A MANUFACTURING CENTER.

The general observations on the trade, especially the coal trade, of Newcastle and the statistics quoted will, I trust, convey a fairly accurate idea of the size and importance of the city and district. In common with nearly every city and town of the world, Newcastle has suffered severely from the depression which set in a few years ago, and still, though happily in a less acute form, hangs over these colonies. That Newcastle must ultimately, and in the near future, recover the position of prosperity she once held is certain. She possesses exceptional advantages as a port; her coal measures are, practically, illimitable; the facilities she offers to enterprising capitalists, who desire to establish works for smelting mineral ores of all kinds and for the manufacture of iron and steel, are so manifold that she must ere long become a great manufacturing center. Another factor, which must help toward the advancement of Newcastle, is the circumstance that she is the nearest outlet to the magnificent pastoral and agricultural country stretching away north to the Queensland border and northwest to the Darling and Barwon rivers—land which is unexcelled for fertility in any country.

A FREE-TRADE POLICY.

The Government, headed by Mr. G. H. Reid, that is now in office is a thoroughly free-trade one, and with the commencement of this year was introduced the policy upon which they assumed power. The ad valorem and specific customs duties, which have been more or less in operation for many years past and were considerably increased and extended by the protectionist administration of Sir George Dibbs, have been partially, and will eventually be entirely, abolished.

INCOME AND LAND TAXES.

To make up the loss of revenue, and also for politico-economic reasons, there have been imposed an income tax, with an exemption of $973.20, and a land tax, with an exemption of $1,168. Those who come within the scope of these taxation acts are now busily engaged in preparing the returns of their incomes or land, or both, as the particulars have to be furnished to the taxation commissioners on or before the 27th instant. The introduction of these new forms of raising revenue is received with disfavor by many who are affected thereby, but the bulk of the population, by their votes at the last general election, demanded them, and when the friction which attends the advent of all such changes disappears, the chafing of the minority will probably cease also. The Government contend that, even in the case of a person in receipt of a large income or possessing extensive landed estates, the amount levied for income or land will be almost, if not quite, returned by the removal of the taxation through the custom-house upon necessaries of life and goods of everyday consumption. The fact can not be gainsaid that New South Wales has twice within thirteen months declared emphatically and unmistakably for full and complete free trade. The Premier is redeeming his election pledges in vigorously carrying out that policy.

STEWART KEIGHTLEY,
Vice-Commercial Agent.

NEWCASTLE, N. S. W., *March 12, 1896.*

RECEIPTS OF GOLD AT THE MELBOURNE MINT.

The actual receipts of gold at the Melbourne mint during the year 1895 amounted to 1,088,195.6 ounces, of which 718,929.32 ounces were Victorian and 369,268.28 ounces foreign, *i. e.*, principally from other colonies. Of the gold received during 1895, 15,999.71 ounces were reissued for export.

The value of gold coin and bullion issued from the mint during 1895 is stated as follows:

Description.	Value.			
	£	s.	d.	
Gold coin	4,165,869	0	0	$20,273,200.78
Gold bullion	122,381	6	10	595,568.79
Total	4,288,250	6	10	20,868,769.57

Particulars of gold received during 1894 and 1895.

Received from—	1895.	1894.
	Ounces.	*Ounces.*
Victoria	721,878.98	721,014.38
New South Wales	441.67	310.21
New Zealand	39,394.67	46,831.46
Queensland	112.02	17.81
South Australia	47,343.15	35,730.7
Tasmania	51,165.34	48,802.94
Western Australia	226,135.32	199,904.02
Light gold coin	281.31	285.94
Unknown	6,058.99	8,413.34
South Africa	8.26	....
Madagascar	....	162.65
Total	1,092,819.71	1,061,473.45

D. W. MARATTA,
Consul-General.

MELBOURNE, *January 6, 1896.*

TREATMENT OF GOLD ORES IN AUSTRALIA.

The veinstone, which contains from about 1 to 12 per cent of pyrites, but generally only from 3 to 5 per cent, is crushed wet in stamper boxes. The crushed material passes through stamper gratings containing from 81 to 290 holes to the square inch, and is, as a rule (almost without exception), delivered on the amalgamated copperplates and mercury wells 7 inches deep at the back of the slide board and 2 inches in front of it or simply on to plates having only mercury riffles; thence by gravitation on to blanket strakes or Halleys percussion tables or zigzag boxes; if on to blankets, thence on to

Halleys table; but if on to Halleys table, thence on to blanket strakes; and if on to a labyrinth or zigzag boxes, thence into a buddle. In the first of these three cases, the pulp collected on the blanket sand and the refuse from the same, together with the tails, is concentrated in a Duncan concentrator or amalgamated in a revolving barrel, and from the barrel is then pumped into an inverted pyramidal box, whereby the slimes are, to a great extent, separated from the coarse sand, which is at once treated on vanners, while the slimes are collected in large settling tanks and then treated on vanners. At times, without concentrating it in a Duncan concentrator or treating it by amalgamation in a barrel, the pulp being very poor in pyrites, the tail sand from the end of the blanket strakes is pumped up into several pyramidal boxes, when the coarse sand and the slimes are treated on separate vanners. With the concentrates thus obtained, the blanket sand is treated by chlorination. Again, in some instances, though seldom, wooden strakes (boxes) and tyes are placed at the end of the blanket strakes, and thereafter, lastly, a canvas table.

In another crushing establishment, the pulp from the blanket strakes is concentrated in percussion tables (Halleys), the tailings from which flow into a sump. A tailings pump lifts the pulp on to a high platform, where it is distributed, without classification, on two long, fixed, threefold canvas tables, each about 110 feet in length. Although not treating veinstone only in one of the largest reduction works of this colony, the tailings from the blanket strakes, which are placed immediately below the amalgamated copper-plates, flow into a pit and are raised thence and delivered into a trommel. The pulp passing through it is then classified in a long series of Spitzkasken (inverted pyramidal boxes) and the different grades obtained by that means are then concentrated on a number of Luhrig vanners.

Lately, the overwork of these has been somewhat relieved by the introduction of a great number of what may be termed endless intermittently revolving canvas vanners, about 120 feet in length, as they concentrate on a wooden platform during about a quarter of an hour, more or less, according to the mineral contents of the pulp, and are then made to revolve on rollers a length of about 8 feet, to enable the concentrates gathered on the upper portion of the canvas belt to be washed into the collecting trough.

The "blanket sand" in that establishment is treated with a large quantity of mercury in what may be called a large Berdan basin, but without balls or drag.

In the second of the three cases above mentioned, the Halleys tables having concentrated a large percentage of pyrites, mainly the coarsest particles, the pulp falls by gravitation on to blanket strakes; thence, without further classification, on to frue vanners; thence, into wooden strakes; and, finally, before running to waste, it is passed over canvas frames. In other instances, the blanket sand collected at the end of the percussion tables is concentrated by a Duncan concentrator and the tailings from it flow into the battery tailings sump, and thence the whole is pumped into a slime-separating, inverted pyramidal box. The coarser material issuing from the apex is at once concentrated on Triumph vanners, while the slimes conveyed into settling tanks are, subsequently, dressed on different vanners of the same type. Finally, the whole of the tailings pass over canvas frames.

Other reducing plants convey the blanket tailings directly by gravitation to the head of a series of wooden strakes and tyes, then pump them on to a platform, and then, in some cases, distribute the pulp, without any attempt at classification, on to fixed canvas tables.

Referring to the third method of treatment noted, the crushed material flowing from the end of the amalgamated plates into zigzag boxes is roughly classified in them. The "heads" and "middles" are concentrated in a Borlase concave buddle, fitted with iron scrapers set at an angle, but the tailings from the labyrinth and those of the buddle are collected in a sump, and thence raised by a tailings pump on to and distributed over an extensive area of blanket strakes. The large quantity of rich sand, collected from the sluicing of the blankets, is concentrated by a McNeill's oscillating convex concentrator, which collects a considerable quantity of mercury and amalgam (gold amalgam), separating it from the iron and arsenical pyrites (concentrate), and this from the sand which flows back into the pit. The tail sand from the fall of the blanket strakes is conveyed by a launder into an inverted pyramidal box, whence the coarser pulp escapes at the apex and is at once treated on Triumph vanners, while the slimes flow into another inverted pyramidal box, from the apex of which the heavier stuff (classified) is delivered on to slime vanners, and the overflow is concentrated on to a fixed canvas table about 30 feet in length.

The foregoing is a precise statement of the methods and appliances generally adopted in the principal reduction works in this colony to extract the gold from its matrix.

There are, however, a few establishments in which the treatment of the auriferous veinstone is differently effected. For instance, those in which the pulp, dropping from the end of the amalgamated copperplates, flows at once into a Denny & Watson grinding and amalgamating pan or other similar appliance to effect the same purpose, the overflow from which is allowed to run to waste, and the one establishment in which the veinstone is comminuted in a ball mill (Kugelmühle) and the escaping pulp is treated more or less in the usual manner.

The concentrates obtained by the stamp-mill process, which consist generally of a mixture of arsenides and sulphides, arsenical pyrites (mispickel mostly), iron pyrites, and a slight admixture of galena, zinc blende, bournonite, etc., are roasted in either long (about 45 to 50 feet), slightly inclined furnaces or in 12 to 14 feet high revolving furnaces, until most, if not all, of the iron contained in the concentrates has been oxidized to the state of sesquioxide of iron. The roasted ore is then, according to the grade of the particles of the gold therein, either subjected to the process of amalgamation in C. I. arrastras or treated by chlorination. In some establishments, the well-known Newberry and Vautin process is adopted, while in at least one mill, the system of open vats is adopted, as at Mount Morgan, in Queensland. In both cases, the gold is precipitated from its solution on charcoal by percolating it through charcoal filters.

As an exception to the usual course of roasting the concentrates (pyrites) before the gold is extracted by amalgamation or chlorination, 112 tons of clean iron and arsenical pyrites were treated a few years ago by amalgamation by, first of all, grinding the pyrites in a Chilean mill to an impalpable pulp, then passing it in a diluted state through the force dollies charged with quicksilver, and thence in several sets of Rittinger's Hungarian mills, the whole of their working surfaces being covered with amalgamated copper-plates and the basins charged with mercury. The result was very satisfactory, as the yield exceeded that obtained from the amalgamation of the roasted stuff, but the process was too slow, only from 12 to 15 tons per month per heavy Chilean mill being put through.

The actual loss of gold, on an average, in the treatment by open vats of concentrates averaging, as per assay, 6 ounces of gold to the ton, is 2 pennyweights of 23-carat gold to the ton, *i. e.*, the gold saved equals 98.34 per cent of the assay value.

In another large establishment, in which the concentrates are treated by the Newberry-Vautin method, the loss of gold per ton averages 6 pennyweights from concentrates averaging, as per assay, 3 ounces 11 pennyweights 3 grains to the ton, *i. e.*, the gold saved is equal to 91.66 per cent of the assay value. The cost per ton for treatment in the first case is £1 4s. 2d. ($5.87), and in the second, £2 9d. ($9.91).

Very few mining companies extract the gold from the concentrates in their works. Most of them either sell them to the amalgamating, chlorinating firms at Bendigo or Ballarat, and other centers of large fields, or have them treated at those establishments on account. Hence no further reliable information can readily be obtained on this subject.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *March 25, 1896.*

ELECTRIC LIGHTING OF RAILWAY TRAINS.

The electric lighting of the Broken Hill (South Australia) express train is carried out by means of a charging dynamo and storage cells fitted up in the brake van and incandescent lamps of 5 and 10 candlepower fitted in the second-class and first-class carriages, respectively.

The charging dynamo is driven from one of the brake-van axles by means of a linked leather belt running over two flanged jockey pulleys sliding on two vertical standards above the dynamo pulley. The belt is kept tight by strong spiral springs placed under the brackets carrying the jockey pulleys. The tension of these springs is regulated by screws, so arranged that the jockey pulleys can be lowered sufficiently to stop the revolution of the dynamo by slackening the belt on the van axle pulley, this pulley being provided with deep flanges to keep the belt in position when so slackened. The output of current from the dynamo is regulated by a centrifugal governor, belted to the dynamo spindle. When the train attains a speed of 25 miles per hour, the movement of this governor automatically couples the dynamo to the cells and the lighting circuit, and also keeps the output of the machine constant with any variation of speed above that rate. Should the speed drop below 25 miles per hour, the circuit is broken again by the governor. The machine is capable of an output of 80 ampères at 65 volts.

The storage battery consists of 24 cells, each having a capacity of 550 ampère hours, distributed about the brake van so as to equalize the weight on the bogies. The charging rate of these cells is 55 ampères, and the dynamo is so arranged as to charge the cells at the maximum rate at the same time as it is lighting the lamps in the train. Suitable automatic appliances are placed in the brake van to keep the brilliancy of the lamps at the normal point, whether run off the cells or the charging machine, together with indicators showing the amount of current taken by the lamps when burning.

The method of running the plant is as follows: When it is necessary to charge the cells, a special attendant is sent out with the train for the round trip from Adelaide to Terowie, a distance of 280 miles, during which he charges the cells to their full capacity. The lighting of the train on the following one or two trips—depending upon the size of the trains and the season of the year—is performed by the storage cells, the coupling of the leads between the vehicles and the switching on and off of the lights being carried out by the guard in charge of the train, who also takes frequent records of the amount of current used on the journey. As soon as the amount of current used on these noncharging trips approaches the quantity that can be stored by a round-charging trip, the special attendant is sent out with the train and the cells recharged to their full capacity again. The charging machine is never run unless the special attendant travels with the train, the machine being thrown out of gear by the slackening of the belt. On an average, it is necessary to charge the cells every second trip in winter and every third trip in summer.

Each first-class compartment is fitted with two 10-candlepower lamps, each second-class compartment with two 5-candlepower lamps, and the brake van with three 10-candlepower lamps. Two lamps are placed in each compartment, so that the light shall be maintained in the event of the extinction of a lamp. The floor space of each compartment equals about 52 square feet. The number of vehicles on the trains varies from six bogie carriages and brake van, representing twenty-five 10-candlepower and thirty-four 5-candlepower lamps, to four bogie carriages and brake van, with nineteen 10-candlepower and twenty-eight 5-candlepower lamps.

The cost of installing the electric light in this train—consisting of five composite carriages of six compartments each, one lavatory carriage of four compartments, and one brake van—was £790 ($3,844.53).

The cost of maintenance, renewals, and repairs of the electric light per week under the present running conditions is as follows: Wages of attendant, supervision, etc., £2 7s. 3d. ($11.49); maintenance and renewals of storage cells, machinery and appliances, lamp renewals, oil, waste, etc., £1 6s. 6d. ($6.44); average cost per week, £3 13s. 9d. ($17.93). The cost of lighting the train previously with kerosene was £4 ($19.46) per week.

The number of failures of the light during the two years it has been running has been practically nil, and over part of the journey only on two occasions has the light not been available. On one occasion this was due to wet weather and some slight imperfection of the couplings to the leads.

When the machinery was handed over to the department, there were no means of stopping the dynamo while the train was running. An alteration looked upon as that which insured the success of the installation was the method of dropping the belting from the pulley as described.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *November 20, 1895.*

LABOR IN BELGIUM.

In my dispatch of June 6, 1894,* I endeavored to furnish the Department with a few indications as to what is being done in Belgium for the amelioration of the condition of the working classes.

A brief statement of what has occurred of interest in this matter since the date of the above-mentioned report and some statistical data on the subject may prove interesting.

During the year 1894, the Government organized on a firmer basis the inspection of labor and the surveillance of dangerous and insalubrious establishments, and prescribed a certain number of general regulations concerning the sanitary condition of factories and the protection of workmen against the accidents of labor.

In November of that year, there was instituted a bureau of labor, whose duty consists in collecting statistical information on the situation of labor, its relations to capital, the condition of the laboring classes, and the effects of the laws relating to them. This bureau of labor is also required to keep itself posted as to foreign legislation concerning labor, with the view of bringing it to the knowledge of the people and assisting in the elaboration of new legislative measures.

For the purpose of giving to the enactment of labor legislation the desired impulse, a royal decree of May 25, 1895, created a Ministry of Industry and Labor, to which was naturally attached the bureau of labor.

There are now pending in the House of Representatives and in the Senate bills for (1) the appointment of inspectors from the ranks of the workmen themselves and charged with the surveillance of subterranean works and mines; (2) the regulation of the situation of the public functionaries of the Kingdom; (3) the establishment of an income tax; (4) the pension of old miners; (5) the organization of the industrial and agricultural labor market; (6) the limitation of the length of a day's labor; (7) the regulation of labor in factories; (8) labor organizations; (9) the institution of a bank for the pension of retired laborers; (10) insurance against illness, accidents, and old age.

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* Printed in CONSULAR REPORTS No. 167 (August, 1894), p. 604.

The situation of labor in Belgium was considerably improved in 1895. There were few or no strikes, except in the city of Ghent, where the boiler and engine makers suspended labor during a period of about eight weeks.

In the mining districts, where for a long time strikes have been considered epidemic, no suspension of labor of any importance was reported.

Involuntary idleness, which generally occurs during the winter, diminished somewhat in the course of last year. It results, from an investigation made by the public authorities, that in Brussels and its suburbs, less than 2 per cent of the laboring population properly so called was forced into idleness during the winter of 1894–95.

The last inquiry made by the Department of Agriculture, Industry, and Public Works concerning the resources and necessary expenses of workmen showed that on the average each family consists of four children, or of six persons per household; that of this number of children, 29 per cent work for wages and 8½ per cent of the mothers of families have, independently of their household duties, occupations the proceeds of which increase the earnings of the family.

These earnings amount monthly, on an average, to 153.60 francs ($29.65) per family, and it has been established that the father earns, on an average, per day, 4.10 francs (79 cents); the mother, 1.15 francs (22 cents); the boys, 1.45 francs (28 cents); the girls, 82 centimes (15 cents).

If, instead of a classification of this kind, the earnings were distributed according to age and sex, the average remuneration per day of 10½ hours would be:

Age.	Males.		Females.	
	Francs.		*Francs.*	
For laborers over 21 years of age	3.75	*$0.72	2.17	*$0.42
19 to 21 years	3.13	.60	1.90	.37
17 to 19 years	2.48	.48	1.76	.34
16 to 17 years	1.93	.37	1.45	.28
15 to 16 years	1.53	.30	1.24	.24
14 to 15 years	1.28	.25	1.14	.22
13 to 14 years	1.00	.19	1.02	.20
12 to 13 years	.42	.16	.92	.18

* In these reductions to American currency, fractions are omitted.

It is estimated that these earnings are expended as follows: (1) For necessary food, 61 per cent; (2) lodging and clothing, 32 per cent; (3) religious, intellectual, etc., 2 per cent; (4) luxuries, 5 per cent.

The food consumed is in the following proportion: Bread, 30 per cent (of the 61 per cent); vegetables, 14 per cent; meat and lard, 21 per cent; eggs, cheese, milk, and butter, 23 per cent; coffee and groceries, 8 per cent; beer and spirits, 4 per cent.

Of the 2 per cent estimated above for religious, intellectual, etc., expenses, the church gets 15 per cent, the school 35 per cent, and the remaining 50 per cent, or 1 per cent of the entire earnings, go in contributions to mutual aid, assurance, and saving institutions.

Of the 5 per cent expended for what are termed luxuries, 73 per cent is for beer and spirits consumed in bars, 16 per cent for tobacco, and 11 per cent for local and public holidays.

Interesting results are obtained by classifying the data by trades. This classification shows the monthly totals of the receipts and expenditures of the average Belgian laborers in groups:

Occupation.	Receipts.		Expenses.	
	Francs.		*Francs.*	
Glass and ceramic industries	197.36	$38.09	179.16	$34.58
Minor mechanical material	175.08	33.79	162.82	31.43
Art industry	164.65	31.78	163.84	31.62
Linen, cotton, hemp, and jute weaving	161.92	31.25	164.71	31.79
Building industry	157.40	30.38	173.37	33.46
Mining and related industries	152.24	29.38	180.73	34.89
Chemical industries	151.24	29.19	180.00	34.74
Linen, cotton, hemp, and jute spinning	149.35	28.82	149.40	23.83
Metallurgical industry	149.13	28.78	146.85	28.34
Alimentary industries	142.58	27.52	157.61	30.42
Quarry industry, transportation, and manipulation of merchandise	140.25	27.07	151.80	29.30
Clothing accessories industries	139.14	26.85	147.15	28.40
Woolen industry	136.50	26.34	142.30	27.46
Heavy mechanical material	131.67	25.41	148.61	28.68
Clothing industry	120.17	23.19	164.57	31.76
Furniture and building accessories industries	118.39	22.85	144.57	27.90

In the foregoing table, the items of expenditure in some cases exceed the receipts. This is explained by the fact that the estimates are made for the month of April, at which time there are abnormal expenses, as renewal of wardrobes, planting garden, whitewashing, etc., while the receipts remain normal.

As showing the improved physical condition of the working classes, the following interesting facts result from careful inquiry: The food of the workman of the present day is superior in composition, quality, and quantity to what it was thirty years ago. A single article—that of potatoes—has diminished in quantity. On the other hand, butter and lard have doubled in the amount consumed. The quantity of meat consumed has been trebled. Coffee is used to about the same extent to-day as it was thirty years ago. As to bread, 117 pounds have been added to the workman's annual consumption; moreover, a great change with respect to quality has taken place.

Formerly, rye bread represented 17 per cent of the total weight of bread used, against 31 per cent of wheat bread and 22 per cent of méteil (mixed wheat and rye) bread. To-day, the use of rye bread has been almost entirely abandoned; it has been replaced on the workman's table by wheat bread.

Furthermore, it appears from the comparison of wages that those of to-day represent double those of thirty years ago, and that the length of a day's labor has been diminished by half an hour.

As an offset to these ameliorations, the frequenting of saloons and bars and the consumption of alcoholic drinks has increased from 2.48 per cent of the workman's resources to 4 per cent.

JAS. S. EWING,
Minister.

BRUSSELS, *March 6, 1896.*

TRADE AND INDUSTRIAL CONDITIONS IN CHINA.

I have the honor to forward to you, under separate cover, duplicate copies of the returns of trade and trade reports for the year 1895. I also inclose editorial comments of the North China Daily News, which form a good summary thereof.

The report of the customs statistical secretary, prefixed to these returns, leaves little to be said on the general aspects of the trade of China for the past year; to some points, however, more particular attention may be directed.

The failure of foreign war and internal disturbances to adversely influence trade is noticeable. Notwithstanding the cession of Formosa and the closing of the Niuchwang custom-house during several months, the trade of China with both western and Asiatic countries increased and expanded.

The trade with the United States, while less than for 1894, was greater than for any other in the preceding eight years. The exports to the United States in 1895 amounted to 15,383,402 Haikwan taels ($12,168,271); the imports from the United States to 5,093,182 taels ($4,028,707), of which more than 3,000,000 taels ($2,373,000) were for kerosene oil. It is noticeable that in 1895 the import of Russian oil exceeded that of American oil in quantity and value for the first time in the history of the trade. This is accounted for by the large stocks of American oil imported in 1894 and held over.

Apart from the matters explicity touched upon in the customs returns under review, the year 1895 has been noticeable. The close of the war with Japan was looked forward to by foreigners as the date from which China was to depart from her traditional policy as to internal improvement and development. It was anticipated that this Government would enter upon railroad construction, mining, and naval and military systems of great magnitude, While the views of the most enthusiastic have not been realized and China has shown a cautious conservatism, there has been no want of progress. The railroad from Tientsin to the vicinity of Peking has been authorized and is now being rapidly constructed. Great extensions of the line from Tientsin northward into Manchuria have been determined on, and will doubtless soon be undertaken.

As to the general problem of railroad construction, the Chinese Government stands committed to the policy of using Chinese money only. An imperial decree has authorized the formation of native companies for the construction of lines in the south. It is not believed, however, that this policy will avail for lines of any great extent, and it may be predicted that China will resort, eventually, to the aid of foreign syndicates.

The railroad development of China has attracted the attention of American financiers and builders of rolling stock and equipment. Many agents of American firms are now in this country awaiting the adoption of some definite plan by the Imperial Government. At least two combinations of American capitalists, represented here by agents, are prepared to build and equip from beginning to end any railroad system which China may desire.

In the matter of naval and military reorganization, China showed after the war little desire to take immediate steps. Confronted by a debt of 200,000,000 taels* to Japan, and without resources to meet it, the Government decided not to pledge its credit for ships and guns which were not immediately needed. This conservatism was a disappointment to many agents of foreign manufacturers, among whom were several American firms. The success of Europeans in this line of trade in the past has been due to long representation here and great patience. The high standard of excellence recently attained by Americans in the production of ships, armor, and guns will doubtless enable them, by the adoption of a similar policy, to secure, in time, a share of this business.

The provision in the treaty of peace between China and Japan authorizing the subjects of Japan to engage in manufacturing in the open ports of China, a privilege which inured to the citizens of all treaty powers, seemed to open a wide and profitable field of investment to foreign capital. When the commercial treaty between the above powers came up for discussion, however, the value of the said privilege was considerably restricted by the unexpected assertion by China of a right to levy discriminating taxes on goods manufactured by Japanese at the ports, and also on such goods when shipped inland. This subject was referred to in my dispatch of January 21 last, and the disagreement of the two powers thereon has not yet been settled. The unrestricted right of foreigners to manufacture in China is so fraught with momentous consequences to foreign manufacturing interests that the failure of Japan to secure immunity from taxation for the product of her mills in China would excite little sympathy in manufacturing communities abroad. It would seem, therefore, that dangers still confront foreign manufacturing establishments in this country which no foreign government would find to its interest to remove and that Americans about to embark in manufacturing enterprises here might be advised to take notice of them.

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*The average value of the Haikwan tael in 1895, according to the United States Treasury valuations, was 79.1 cents.

Intimately connected with the subject of manufacturing is the question of exchange. The customs statistical secretary says, in the first paragraph of his report:

> Cheap labor and raw material are abundant, and with the continuance of the advantage which the East enjoys by the fall in the gold price of silver, there is every prospect of China becoming a most important manufacturing country, which will lead to a keen and formidable competition in textiles between East and West.

It is safe to say that it will be many years before native manufactured articles will drive foreign goods out of the market. The silver question cuts both ways. The merchant in China buys for silver and sells in Europe and America for gold; thus he largely gains. On the other hand, he buys in foreign countries for gold and sells in China for silver. Prices for foreign goods are necessarily raised, but the volume of trade continues to increase. Universal bimetallism would be welcomed by many foreign merchants residing in China, though the sentiment is by no means universal. It is safe to say that scarcely anyone favors "free silver" for his own country alone.

CHARLES DENBY,
Minister.

PEKING, *April 6, 1896.*

[From the North China Daily News, Shanghai, March 23, 1896.]

THE CUSTOMS RETURNS FOR 1895.

The very interesting series of tables issued by the statistical department of the customs in the pamphlet entitled Returns of Trade and Trade Reports for the year 1895; Part I.—Report on the Trade of China and Abstract of Statistics, merits a much longer notice than we are able to give it this morning, and we are obliged to confine ourselves to the able monograph by Mr. Kopsch on the Foreign Trade of China for the year 1895. The first paragraph of this contains a general survey, the gist of which is that, notwithstanding the war with Japan, the loss of revenue from Niuchwang, and the partial loss from Formosa, the returns, both fiscal and statistical, exhibit very satisfactory results. Trade was remarkably active and prosperous, and the cheapness of silver, labor, and raw materials tend to make China more and more a most important manufacturing country. As to the revenue, the gross receipts for the year were 21,389,000 Haikwan taels, against 22,523,605 taels in 1894. But if we deduct from both years the ports of Niuchwang, Tamsui, and Tainan, a much more satisfactory result is shown, the result being 20,951,141 taels in 1895, against 20,984,819 taels in 1894. This, taken alone, would show a slight falling off in the foreign trade, which might fairly be attributed to the war. There was, however, really a marked increase in the general trade, for there was a decline of 946,100 taels in opium likin. Eliminating this likin in both years, we find a net increase in 1895 over 1894 of 912,500 taels. The decrease in opium likin was partly due to the loss of Formosa and partly to the steady substitution of native for the Indian drug. It may be noted that transit dues showed a gain in 1895 of 97,000 taels. The aggregate increase in the value of foreign imports and exports for the year was 24,000,000 taels, and although a large part of this increase is merely statistical, arising from the conversion of Formosa into a foreign country, there has been a genuine improvement and expansion in trade with both western and Asiatic countries. The actual net increase in the value of the import trade was over 2,500,000 taels, notwithstanding the serious decline in the import of foreign opium. The deficit in the Indian and Persian drug was about 11,820 piculs; and, against this, 11,780 piculs of native drug were shipped from Chungking toward tide water, this quantity being only a moiety of what leaves that westernmost port by other routes and conveyances. It is not satisfactory to see that there was a large increase in the import of morphia. In spite of the appreciation in the silver cost, the import of cotton goods increased, but Mr. Kopsch regards this as an unsafe indication of the tendency of the trade, and adds a table showing the offtake of the principal cloths during the first and second half of the decade:

Description.	1886–1890.	1891–1895.
Shirtings:	*Pieces.*	*Pieces.*
Gray	29,836,000	26,973,000
White	11,930,000	11,213,000
T-cloths	10,851,000	8,709,000
Drills:		
English	1,742,000	1,117,000
American	2,802,000	3,156,000
Sheetings:		
English	3,093,000	3,440,000
American	6,359,000	6,276,000
Total	66,613,000	60,884,000

"The increased cost of cotton goods," he says, "is accountable for this annual shrinkage of over a million pieces," and he quotes a calculation made by Mr. Noël, which has already appeared in our columns, showing that an assorted parcel of cotton goods purchasable here in 1886, with exchange at 4s. 6½d., for 31.85 taels, would cost in 1895, with exchange at 2s. 11d., 40.71 taels, an advance of over 27 per cent. In woolens, the trade remained stagnant, but this is easily accounted for by the fact that an assortment bought in 1886 for 24.54 taels would cost 33.92 taels in 1895, an advance of 38 per cent, making them nearly as expensive for clothes as silk and satin. Metals have suffered very seriously from the fall in silver; but several other articles have risen to the dignity of a separate line in the table and are no longer lumped together in the sundries, such as bags, llama braid, candles, cement, cigars and cigarettes, palm-leaf fans, lamps, leather, Japanese matches and umbrellas, medicines, Sumatra kerosene oil, and refined sugar. The province of Kuangtung paid over 25,000,000 taels for food products from San Francisco, the Indo-Chinese peninsula, and the Yangtze ports, without any unusual distress or scarcity being heard of. A temporary suspension of shipments from America caused a marked advance in the import of kerosene oil from Russia and Sumatra.

In the value of exports, there was an actual net gain of 9,000,000 taels, caused, undoubtedly, by the low price of silver in which the goods are bought that are sold for gold. There was a splendid demand for silk, including filatures, cocoons, and silk piece goods. In tea, the gain was insignificant, for while the Russian demand continually increases, the demand for the United Kingdom declines as steadily. In 1885, the direct shipments of tea to Great Britain aggregated 133,300,000 pounds; in 1895, they were 38,300,000 pounds. The export of raw cotton increased, notwithstanding a rise in the price; there was an extraordinary development of the trade in skins, the tanned and untanned pelts of dogs, goats, sheep, and lambs. The value of the exports in the past five years was: In 1891, 881,000 Haikwan taels; in 1892, 1,315,000 taels; in 1893, 1,299,000 taels; in 1894, 1,681,000 taels; and in 1895, 2,649,000 taels. "A no less remarkable expansion is observable in the demand for nankeens, which are required by Chinese laborers abroad, who now find it as cheap to buy this more durable homespun cloth as the flimsy European fabrics so enhanced in price by the appreciation of gold." Mr. Kopsch also draws attention to the exportation of 483,400 rolls of matting from South China. He mentions the slight falling off in certain staples, such as straw braid, sugar, hair, and hides, and enumerates "several new products which so-called cheap silver makes it profitable to send to the west." They are bristles, sesamum seed, tallow (both animal and vegetable), and white wax, which, however, can hardly be called new products.

There is little to quote about reexports. As to shipping, there was a slight increase in the total entries and clearances, while "freight was abundant and profitable." In treasure, there was a net export of gold to the value of 6,624,000 Haikwan taels, and a net import of silver to the value of 36,685,000 taels. These, of course, are the amounts that came under the cognizance of the imperial maritime customs.

[From the North China Daily News, Shanghai, March 28, 1896.]

THE CUSTOMS RETURNS FOR 1895.—II.

There is so much of interest in the statistics attached to Mr. Kopsch's report, that it is difficult to notice all the salient points in the limits at our disposal. The first table gives the annual value of the foreign trade of China, carried in vessels of foreign type, for the past thirteen years. The expansion of the trade has gone on steadily, with occasional temporary interruptions, until it is more than twice as large now as it was in 1883. The figures for the first and last years of the series are, in Haikwan taels:

Description.	1883.	1895.
	Taels.	*Taels.*
Net imports	73,567,702	171,696,715
Exports	70,197,693	143,293,211
Total	143,765,395	314,989,926

The customs revenue has grown* in the same thirteen years from 13,286,757 Haikwan taels to 21,385,389 Haikwan taels. But there was no opium likin in 1883, and the total revenue in 1891 was 23,518,021 Haikwan taels. This last amount does not show any decline in the general trade, for the opium likin amounted to 6,197,906 Haikwan taels in 1891 and to only 4,104,145 Haikwan taels in 1895, and there was a corresponding decline in the opium duty last year. Of the total foreign trade, amounting, as shown above, to nearly 315,000,000 taels, the British Empire did something over 215,000,000 taels, Japan coming next with 32,000,000 taels, the continent of Europe, Russia excepted, doing about 29,000,000 taels, the United States 20,500,000 taels, and the Russian Empire something over 17,000,000 taels.

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* The writer for the North China News takes no note of the depreciation of the tael, which was worth $1.36 in 1883, against 79.1 cents in 1895. Estimated at these values, the customs receipts in 1883 amounted to $18,069,990, against $16,915,843 in 1895, a large decrease, instead of the large increase shown in the News's figures. Even including the receipts from opium in 1895—there being none in 1883—the total customs receipts amounted to only $18,602,913, or a little over half a million more than those of 1883. In like manner, the foreign trade of China, estimated on the same basis, shows the following results in American currency, as *per contra* to the showing by the News writer: In 1883, 143,765,395 taels=$195,520,094; 1895, 314,898,926 taels=$249,085,050, an increase during the thirteen years of only $53,534,956, instead of being more than twice as large, as shown by the News.

The table showing the net import of foreign goods occupies three pages. We extract a few leading staples of trade to show how the imports last year compared with those of 1894:

Articles.	1894.	1895.
Opium … piculs	63,051	51,525
Shirtings:		
Gray … pieces	4,839,445	5,387,489
White … do.	2,527,088	1,843,645
Japanese … do.	10,826	856
T-cloths … do.	996,211	1,414,302
Indian … do.	249,535	369,628
Japanese … do.	2,154	11,837
Drills:		
English … do.	208,455	149,018
American … do.	705,031	518,402
Japanese … do.	11,741	10,425
Sheetings:		
English … do.	399,837	506,239
American … do.	1,275,744	762,095
Japanese … do.	10,471	3,091
Yarn:		
English … piculs	67,950	56,007
Indian … do.	1,060,542	1,057,046
Japanese … do.	31,104	19,148

Woolens showed a slight advance in 1895, metals a decline, and sundries a considerable advance.

From the table of export of native goods we make the following extract:

Articles.	1894.	1895.
Bristles … piculs	18,378	27,142
Raw cotton … do.	747,231	896,096
Feathers … do.	43,268	65,245
Rush hats … pieces	2,912,375	2,354,762
Hemp … piculs	96,661	97,926
Hides … do.	119,020	115,408
Rhubarb … do.	8,556	7,412
Raw silk … do.	95,101	83,565
Steam filature … do.	4,344	27,056
Cocoons … do.	9,631	24,060
Silk refuse … do.	66,475	56,744
Tallow:		
Animal … do.	59,025	34,804
Vegetable … do.	63,271	68,548
Tea:		
Black … do.	1,217,215	1,123,952
Green … do.	233,465	244,202
Brick—		
Black … do.	356,264	424,491
Green … do.	39,242	56,901
Tablet … do.	12,953	15,814
Tobacco … do.	113,886	112,014
Wool:		
Sheep … do.	226,189	216,622
Camel … do.	27,147	19,144

The value of unenumerated sundries—goods whose export has been promoted by the fall in silver, but the quantities of which do not yet entitle them to the dignity of separate lines in the table—was 8,288,837 Haikwan taels in 1894 and 9,779,324 Haikwan taels in 1895.

The chief interest of the opium tables to the general reader is the exhibition of the fluctuations to which this trade has been subject in the last ten years, fluctuations which have recently taken the shape of a steady decline. The import in 1886 was 67,801 piculs; it rose in 1888 to 82,612 piculs, fell off in 1889 to 76,052 piculs, recovered in 1891 to 77,445 piculs, and has since steadily fallen, the figures being, in 1892, 70,782 piculs; 1893, 68,108 piculs; 1894, 63,125 piculs; and 1895, 51,306 piculs. It should be added that the import into Hongkong in 1895 was 56,555 piculs, the difference being unaccounted for by the foreign customs.

From the tables giving the particulars of the exportation of tea direct to foreign countries last year, we learn that the Russian Empire took of all kinds 917,160 piculs, the British Empire 474,114 piculs, the United States 311,120 piculs, and the continent of Europe, Russia excepted, 30,066 piculs. There was an additional export of 76,170 piculs from Kowloon to Hongkong, and 33,288 piculs from Lappa to Macao, by junk, and of 13,497 piculs of leaf and 40,370 piculs of brick tea to Siberia and Mongolia from Hankow up the Han River and overland. The total amount of shipping entered and cleared was 31,133 vessels of nearly 25,000,000 tons in 1890, and 37,132 vessels of nearly 30,000,000 tons in 1895. Of this total in 1895, 19,579 vessels of 20,500,000 tons were British, 6,822 (junks being excluded) of about 5,000,000 tons Chinese, and 2,684 vessels of nearly 2,500,000 tons German. Over 28,500,000 tons were steamers.

In the table showing the total annual revenue from each port for the last nine years, we note an almost steady rise at Chungking, Ichang, Chinkiang, Wenchow, Lungchow, and Mêngtze, and a considerable decline at Foochow, Canton, Kiungchow, and Pakhoi. From the table showing the direct foreign trade of each port, we learn that the only ports which did not show an improvement (excluding those whose revenue was directly interfered with by the Japanese) were Wuhu, Wenchow, Kiungchow, Pakhoi, and Lungchow. The gross and net value of the trade of Shanghai for five years is given in a separate table, from which we extract the following comparison, in Haikwan taels:

Description.	1891.	1895.
	Taels.	*Taels.*
Total foreign imports	77,336,115	98,832,827
Native produce imported	47,374,027	58,267,974
Exports of local origin	40,833,720	61,632,482
Gross value of the trade	165,543,862	218,733,283
Net foreign imports	17,928,346	23,864,285
Net native imports	7,212,957	9,493,575
Exports of local origin to foreign countries	20,733,949	39,702,266
Exports of local origin to Chinese ports	20,099,771	21,930,216
Net value of the trade	65,975,023	94,990,342

It will be noticed that the percentage of increase of the net value is much larger than of the gross value of the trade of Shanghai.

In the carrying trade from and to foreign countries there are certain interesting points, which may be stated as follows:

Nationality.	Entries.		Value of imports.	Import duties paid.
	Vessels.	Tonnage.		
			Taels.	*Taels.*
Total	4,265	4,292,334	179,946,960	5,468,389
British	2,716	3,052,332	115,702,439	3,624,784
Chinese	389	157,285	30,465,464	757,518
German	529	478,187	18,768,522	571,307

Nationality.	Clearances.		Value of exports.	Export duties paid.
	Vessels.	Tonnage.		
			Taels.	*Taels.*
Total	4,209	4,214,773	100,407,152	3,406,345
British	2,657	2,964,830	48,098,636	2,176,147
Chinese	396	159,589	26,858,396	184,219
French			9,841,984	288,340
German	541	502,195	7,064,040	264,268
Russian				342,089

Carrying trade between the treaty ports of China.

Nationality.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Total	14,018	10,560,806	14,640	10,669,169
British	7,075	7,213,718	7,131	7,294,918
Chinese	5,833	2,433,709	6,396	2,469,538
German	811	739,983	803	721,820

The last tables in the returns give the percentages of each nation under the following headings:

Nationality.	Tonnage employed.	Total trade.	Transit trade.	Total duties.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
British	69.02	59.74	40.67	64.81
Chinese	17.55	26.46	33.76	19.62
German	8.21	7.31	2.49	7.17
All others	5.22	6.49	23.08	8.4
Total	100	100	100	100

The total number of foreign firms in China is 603, and of foreign residents 10,091:

Nationality.	Firms.	Residents.
British	361	4,084
American	31	1,325
French	31	875
German	92	812
Portuguese	9	805
Japanese	34	669

Finally, the total Chinese population in the treaty ports is estimated at 6,220,000.

AMERICAN BICYCLES IN GERMANY.

One year ago, the American-built bicycle was practically unknown in Germany. Cycling, which became a popular sport and recreation here some years later than in England and the United States, was, until quite recently, confined exclusively to men, who rode either English-built wheels or those of German manufacture modeled more or less closely after English types.

But during the summer of 1895, there appeared at Homburg, Baden-Baden, and other German watering places numerous American cyclists of both sexes, equipped with American bicycles, of which the lightness, gracefulness of model, and easy running qualities were a revelation to native observers, accustomed as they generally were to road machines ranging from 30 to 40 pounds in weight. Particularly noticeable was the high seat of the American ladies' bicycles, set well forward over the pedals, which, combined with the narrow tread and light, neatly formed cranks and pedals, averted the laborious, ungraceful movement of the lower limbs, unavoidable to riders of machines of most European models, and which had previously done much to prevent the general adoption of the wheel by ladies in Germany.

During the same season, there passed through this country to and from Switzerland, Italy, and the Tyrol an unusual number of American tourists riding bicycles weighing from 20 to 24 pounds each, and when, in September, an important professional race was won by a visitor on an ordinary road machine built at Hartford, Conn., the public in this vicinity began to recognize the fact that high-grade American bicycles embodied qualities which those of European manufacture had not yet generally attained. Out of this conviction has grown a demand which, although at first limited, has now reached proportions which indicate that, with proper effort, Germany may become a promising and profitable field for the enterprise of American makers.

For the proper development of the opportunity thus offered, a correct understanding of the nature and requirements of popular demand in this country and the usual methods of German import trade will be essential. It must not be supposed that the large and rapidly growing multitude of German wheelmen are dependent upon imported bicycles. On the contrary, the cycle manufacture is as largely developed here as in any country of continental Europe. There are in Germany not less than twenty manufacturers, of which three are located in Frankfort, who turn out from ten to twenty thousand bicycles each per annum, which are sold by thousands at home for prices ranging from $50 to $100 and are exported in large numbers to Italy, Austria-Hungary, Russia, and Scandinavia, as well as to India and Japan.

But the special opportunity offered here to American exporters comes from the demand by amateurs of both sexes, who ride for purposes of health and recreation, for machines of the highest grade, which are lighter, more perfect in construction and finish than are yet made in this country or can be produced until German makers obtain the automatic machinery and incomparable materials that are employed by leading manufacturers in the United States. That they will eventually do this is more than probable. Already, the best American models have been closely copied in this country, and there is one maker in Westphalia who imports from the United States wooden wheel rims, single-tube tires, and steel tubing for frames, and with these materials builds bicycles weighing only 26 pounds that are, in all essential respects, an important advance over anything hitherto made in Germany. Still, they are distinctly inferior in finish, nicety of adjustment, and easy running qualities to the best American-made bicycles, which maintain thus far the acknowledged superiority established by American typewriters, dental instruments, and mechanics' tools.

From the standpoint of facts thus briefly summarized, the practical question of an American bicycle export trade with Germany divides itself naturally into two topics—the kinds of machines that are most in demand here, and, second, the best method of opening and conducting the trade.

Under the first of these heads, it may be said at once that bicycle racing, the records of professional riders and the track machines which they ride exert no appreciable influence over the preferences and requirements of amateurs. Here, as in the United States, racing men usually ride machines furnished gratis by manufacturers, who seek thereby to gain the patronage of clubs and sporting associations. The demand for American-made bicycles will come mainly from ladies and gentlemen who use the wheel for touring and for purposes of recreation, and who can afford to have the best that can be obtained. Unless specially ordered otherwise, bicycles sent to Germany for sale by dealers should embody as nearly as possible the following specifications:

(1) Weight, from 21 to 25 pounds. Any machine lighter than this will be suspected of frailty and tendency to excessive vibration when ridden on pavements and rough roads.

(2) Frames of large tubing, from 22 to 26 inches in height, the standard model being about 23 inches.

(3) Wooden wheel rims, rubber pedals, and double-tube tires. "Rat-trap" pedals are used here by racing men, but are not generally acceptable to amateurs, and rubber pedals should be not less than 3½ inches wide for women and 4 to 4½ inches for men. Single-tube tires were almost unknown here until American bicycles were introduced, and, notwithstanding their greater resiliency, lightness, and speed, they are considered too sensitive for touring purposes. The roads of Europe are strewn with hobnails that fall from the shoes of peasants, and as amateurs here possess little of the ready ingenuity of Americans for repairing punctures or other mishaps that may occur to a bicycle, the tire and every other part of touring machines should be as strong and secure as possible against every form of accident. To an expert, the single-tube tire is most easily repaired in case of simple

puncture, but few European amateurs have yet learned this, and they cling to the idea that two tubes are less liable to puncture than one. For similar reasons, all bicycles intended for export to Germany should be most carefully put together and adjusted before leaving the factory, as even a slight accident—the loss of a nut, the breakage of a chain or spoke—is liable to awaken suspicion of a vehicle in which the factor of safety is as low as it must be in a 22-pound bicycle.

(4) Finally, every bicycle, unless otherwise specially ordered, should be provided with brake, wheel guards, and spring saddle. Without all these, an imported cycle needlessly affronts present public opinion in Germany. Cycling on public streets and roads is subject in this country to minute and carefully enforced police regulations, which in many places prohibit the use of brakeless machines, and as the mild climate and good roads of southern Germany facilitate riding at all seasons of the year, wheel guards for wet weather are indispensable. Similarly, the hard, rigid saddles which have during the past two years come into almost universal use in the United States, are condemned by physicians and are generally disliked here for all except track-racing purposes. Every bicycle tourist in this country must pass every few miles through villages, the streets of which are paved with cobblestones, which are often so rough and uneven as to impart to a light machine, when rapidly ridden, a vibration that is not only fatiguing and disagreeable, but may be injurious to persons with weak spines or delicate nerves. Many forms of pneumatic and so-called "hygienic" saddles have been devised and tried, but nothing is, on the whole, so generally approved as the saddles which were popular in America two or three years ago, having a plain, well-formed leather seat, resting on steel springs, with an adjusting nut or screw by which it can be made hard or yielding at will of the rider. All this means, perhaps, that the average taste in Germany is a year or two behind that which prevails in the United States, but the point now in interest is not to teach foreign cyclists what they need, but to ascertain what they want and endeavor to supply just that and nothing else.

The gear case has come into nearly universal use in England, where rainy weather prevails most of the year, but its appearance is clumsy, and though it might be perhaps advantageously offered here as an option, it is not yet generally demanded by amateurs in Germany. As a principle, strength, safety against accident through breakage, and, above all, comfort to the rider are the cardinal points of a bicycle to be sold in Europe, and for the lack of these qualities no lightness, speed, or beauty of model will fully compensate.

There is also a considerable demand in this country for youths' bicycles—machines of good quality adapted to the use of boys and girls from 10 to 16 years of age, and which can be retailed for from $50 to $60. For this class of cyclists, German manufacturers have made, thus far, but scanty provision, the few produced being generally heavy and of indifferent construction.

It remains to consider the most effective means of introducing and supplying American-built bicycles to Germany. There are two, and only two, methods by which this may be done—first, by establishing direct relations with a responsible German firm at Hamburg, Bremen, or Berlin, which, in the capacity of general agent, will import the machines, pay duty, and distribute them for retail by dealers and subagents throughout the Empire. This method has been utilized with excellent results by the Pope Manufacturing Company, of Hartford, through the well-known house of Markt & Co., at Hamburg, which has, during the past year, introduced the "Columbia" bicycle so successfully that a large and increasing trade has been developed.

The second method is for the American exporter to send a competent salesman, who speaks both English and German, equipped with samples and catalogues, to visit the principal cities, exhibit at local exhibitions and club meetings, and arrange sales and contracts with independent bicycle dealers, of whom there is one or more in every large German town. This plan has been adopted by the Lozier Manufacturing Company for the introduction of the "Cleveland" bicycle, which has met with such ready favor that the newly established general agency of that company in London has found some difficulty in supplying the new demand in this country.

It goes without saying that, whichever plan is adopted, the general agency must be fully equipped with duplicate pieces, materials, and all facilities for replacing lost or broken parts, and enable subagents to fulfill the customary one-year guaranty and make immediate repairs. Failure to make this provision will operate fatally against the permanent success of any foreign-made bicycle in Germany.

The German import duty on bicycles is about $1.25 for each machine, according to weight, and the process of importation involves no serious difficulty, it being always understood that such business can be generally better managed by an established German firm than by a foreigner. It is also of the first importance that in this, as in other lines of foreign trade, our exporters should imitate their European rivals and concede something to the long-established customs and methods of purchase and payment which prevail in the countries wherein they seek to open new markets. No experienced German merchant will buy more than a sample of an article that he has not yet seen, nor will he willingly pay for it before its arrival in his store. The American system of cash payments on shipment of goods or drafts drawn against bills of lading is, of course, clean and safe and works admirably for interstate commerce, but it loses millions of trade when enforced with foreigners who are accustomed in legitimate business dealings to payments thirty or sixty days from date of invoice. German exporters readily grant such terms to foreign buyers, and, as importers, they naturally expect a similar concession to their established business methods.

The bicycle traffic is a new, and, in many respects, a peculiar business, but the machine itself has become closely identified with the habits, interests, and amusements of the public, and its trade will in the end follow the established principle that the manufacturer who studies most carefully the tastes of his customers, whether at home or abroad, and supplies most nearly what they want in the way by which they have been accustomed to obtain it will be the ultimate winner and reap the profits of his success.

FRANK H. MASON,
Consul-General.

FRANKFORT, *April 21, 1896.*

CYCLE-TUBE TRADE OF BIRMINGHAM.

I send herewith an article clipped from the Daily Post of this city, which shows the remarkable development here of the business of making steel tubes.

The cycle industry has had a very rapid and unlooked-for growth during the past year, though mainly for domestic sale and use. Instead of importing complete machines, as was done up to 1894, the manufacturers of the United States have made long contracts for taking practically the whole steel-tube product of many factories. The amount of these exported from this district in 1894 was $85,899.55. In 1895, the shipments amounted to $507,041.29, and for the first quarter of this year the amount had risen to $231,200.36. As showing the decline of one industry while another is rising, the exportation of bicycles from this district fell from $470,890.73 during the first six months of the year 1893 to $90,968.61 during the last six months of the year 1895.

Almost without notice, tubes and all the component parts that enter into the structure of bicycles became the features of the market for speculative or investment purposes. There is a general feeling that this condition of affairs can not long continue. Some tube-making machinery has gone to the United States, although the movement was carried on very quietly for several months after the process began, but the largest part has been made from designs procured here. The general impression is that our people will be able to supply their own wants by the end of the year 1897 and that, as a consequence, the manufacturers in this district can not count upon an American demand beyond that time. It is known in the trade here, that our home manufacturers, foreseeing the demand, have made large purchases of Swedish iron needed for the successful making of tubes and that the price of that product has been much enhanced.

It is interesting as a business and commercial development, and shows, perhaps as well as any recent event, how industries are revolutionized in a brief time and how much care and study must be given in these days in order to keep pace with new demands on the part of the public. It is also interesting as showing how nearly allied speculation and business of the most legitimate character may sometimes be.

GEORGE F. PARKER,
Consul.

BIRMINGHAM, *May 8, 1896.*

[From the Birmingham Daily Post, May 7, 1896.]

THE CYCLE-TUBE TRADE.

In connection with the prevailing "boom" in the cycle trade, there is one department perhaps more remarkable in its development and experiences than any other. We refer to the manufacture of the weldless steel tubes, of which the framework of the modern cycle is now universally constructed. The production of these tubes took its rise in Birmingham, and at the present time is a very large and daily increasing local industry. Attempts to produce weldless steel tubes by a drawing process, principally for rifle barrels, were made upwards of thirty years ago, and that the idea was practicable was demonstrated by the firm of Christophe, Hawkesworth & Harding, of London and Paris, who laid down hydraulic machinery and supplied a considerable quantity of tubing both for rifle barrels and engineering purposes. The process was, however, a costly and difficult one, and before it could reach its modern developments it awaited some important improvements, both in respect of the drawing appliances and the manipulation of the ingot from which the tube is produced. Among the earliest inventors who addressed themselves to overcoming the difficulties incidental to the drawing of weldless steel tube was Mr. W. C. Stiff, of Birmingham, by whom, in association with Mr. F. H. Lloyd, of Wednesbury, and afterwards with Mr. C. Faulkener, of Birmingham, a number of improvements was effected, and an increasing business done in weldless tube for engineering purposes. Mr. Stiff dissolved partnership with Messrs. Lloyd and Faulkener in 1872, under conditions which precluded him from engaging in the business for ten years. His mind, however, had been working upon the subject, and, at the termination of the prohibited period, he took it up again in a practical way, and started the Credenda Weldless Tube Company, which soon became widely known for the success of its processes, and for a series of years was a financial success. It was at this time that weldless steel tube began to be employed for the backbone and fork of the older type of bicycles and for the framework of tricycles. Among the manufacturers so employing it were the Pope Manufacturing Company, of the United States, who supplied to Thomas Stevens the "Columbia" bicycle upon which he made his memorable trip round the world. This machine had its backbone and fork of Credenda tube, and on the completion of his journey Mr. Stevens wrote to Mr. Stiff testifying to the rigidity and faultlessness of these parts, and the perfect manner in which they had stood the severe strain to which they had been put. Other machines proved equally good, and the weldless tube came into very general use for the best build of cycles. The great demand, however, arose when the "safety" type of bicycle came into vogue, the diamond frame requiring the use of a greater length of tubing and necessitating that this should be as light as possible.

There are variations in the appliances for producing a cold-drawn steel tube, but the principle of all is practically the same. Only a very high class of steel is suitable for the purpose, and that hitherto employed has been chiefly Swedish charcoal steel containing a particular proportion of carbon. The steel is taken in the form of a billet 2 feet long and about 6 inches in diameter. A hole is bored through the center and it is heated, annealed, and rolled into the form of a tube about 1¾ inches in diameter, and with a wall of about 10 gauge in thickness. This is then drawn through a die and over a mandril by means of a draw-bench, until a length of about 800 feet of tubing is produced, beautifully smooth and bright both within and without. This is not all drawn at once, but in a number of operations, and between each of them the undrawn metal has to be repickled and reannealed to obviate the crystallization to which the drawing process tends to give rise. The first drawings of the tube are about three-eighths of an inch thick, but the thickness gradually decreases until a tube is produced of which the wall is of the thickness of stout writing paper. This is the class of tube that is employed in cycle making and that imparts to the machine those qualities of strength and rigidity which seem out of all proportion to its exceeding lightness. A good deal of technical skill is needed in the proper treatment of the metal, and there is great danger of producing waste in the way of flawed tube, unless great care is taken in this respect; otherwise, the process is not a costly one. The essential features of the process not being protected by patent, other firms followed in the wake of the Credenda Tube Company, and as the new form of cycle came into favor tubes for its construction were produced not only in this country, but abroad.

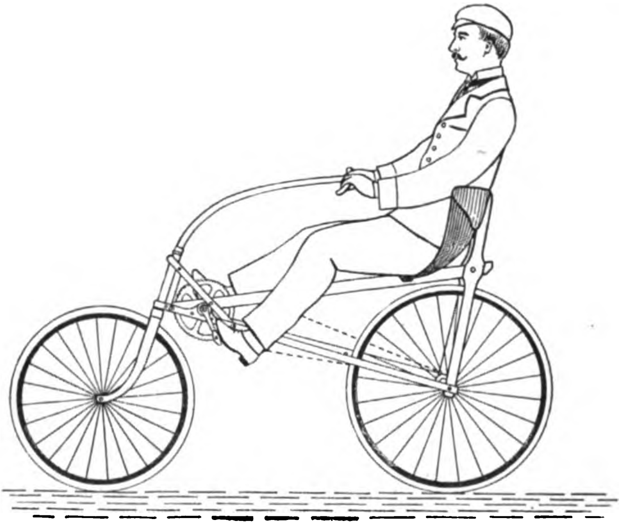
At the time that tubing of the character just described came into extended use and competition began to be felt, the customary discount was 25 per cent off the list prices, and by degrees it went up to 45 per cent. The year 1894, as our readers may remember, was an unfortunate one for the cycle trade. The home demand had previously shown signs of waning, and upon the back of this came a complete collapse of the American market through the financial panic in the United States. The cycle season of 1894 was the worst there had been for years, and the cycle and tube makers had their full share of the unpleasant experiences of the manufacturers who used the commodity they produced. The discounts from the list, already high, went up to 75 and even to 77½ per cent—a price at which tubes could not be made at a profit. As a result, the Credenda Tube Company came out with a loss of £8,000 in 1894, and, in 1895, with a further loss of £13,000, while other public and private concerns fared as badly. The lowness of prices had the result of bringing practically the whole of the cycle-tube trade to this country, but this result was attended by a most remarkable sequel. The American cycle makers, knowing that this state of things could not be permanent, and that there were already signs of improvement on their side of the Atlantic, sent their agents over to Great Britain about February, 1895, and placed forward contracts for practically the whole of the English output at the exceptionally low prices then prevailing. Those contracts are still running, and are largely of an unremunerative character. In the season of 1894–95 the American cycle manufacturers built about four hundred thousand machines; but it is estimated that in the current season of 1895–96, ending July next, their make will amount to a million, or even more, machines, and for about two-thirds of these English steel tubing is being used.

The next incident is the revival of trade in this country following upon the last general election, and quite a reawakening of the cycle industry through the rush of lady cyclists and patronage of the wheel by members of the royal family. Owing, however, to the cute proceeding of the Yankees, the English cycle manufacturers have been at their wit's end for steel tube. They had got all their other "components" in abundant supply, but no tube. To use a familiar expression, they could not get their tube "for love or money." Some of the tube-producing houses had, indeed, overestimated their producing power, and were being uncomfortably pressed by those to whom they were already under engagement. Here and there, however, and at some risk, tube makers spared a small quantity of tubing for the home manufacturer, but at an exceptionally high price. With the view particularly of meeting the home demand, tube companies have lately been springing up like mushrooms. Old and unremunerative concerns have been refloated with a degree of success that, to say the least, must have astonished some of those responsible for them. Among the companies that have been formed since October last may be mentioned the British Seamless Company, Smethwick; the Star Tube Company, Birmingham; the Rose Tube Company, Hales Owen; the Cycle Manufacturers' Tube Company, Coventry; the Concentric Tube Company, Birmingham; Brotherton's Tube Company, Wolverhampton; the Reliance Company; and the Perfecta Company, announced to-day, while others are in course of formation.

Shares in some of these companies have changed hands during the last week or two at quite sensational prices. A great part of the capital subscribed is now being expended in the laying down of plant with all speed, and ere long the tightness of the tube market will give place to an ample supply of the needed commodity. It is not easy to forecast the prospects of the cycle industry. There is doubtless room for considerable expansion, but the probability is that overproduction will be the result attained at no remote date, and with it the disappointment of many of the sanguine hopes that are cherished by investors at the present time.

A NEW SWISS BICYCLE.

I transmit herewith the drawing of a bicycle which has been invented in Geneva, and which is to be exhibited at the Swiss National Exposition. It is claimed for this machine that the position which the rider occupies upon it is not only infinitely easier, but that by means of the support for the back, his forces are far more effectively utilized and with considerably less fatigue.



"LA BICYCLETTE NORMALE," INVENTED BY CH. CHALLAND, GENEVA.

His position, as shown by the drawing, is held to be the normal position of a man in a sitting position, and the bicycle is therefore called "La Bicyclette Normale." The inventor says in his prospectus:

> The principle of the machine is the utilization of the considerable amount of force, very little known, which is afforded by a point of support. Without this point of support, the only force a man has is his own weight. On the other hand, if the back be well supported, he has in each leg a force more than treble his own weight, and which is, in fact, equal to the weight he is capable of carrying combined with that of his own body. The construction of the "Normal Bicycle" is intended to make use of this considerable amount of wasted force. The point of support is the back of the seat, by means of which the cyclist's body is thrown back and his legs lifted up, owing to the position of the pedals. The body is thus placed in a "normal" posture (hence the name of the machine)—he is upright or leaning slightly backwards. The "Normal Bicycle" presents the advantages of greater safety, perfect comfort, healthy position, a greater power over the machine, greater speed, both uphill and on level ground, and less fatigue.

It is also claimed for this bicycle that, being much lower than the ordinary so-called "safety" bicycle, it is much easier to mount.

It has been tried in the streets here and made a favorable impression. The ease with which it ascended hills was particularly noticeable.

"La Bicyclette Normale" has been patented in all the principal countries of Europe and patents have been applied for in the United States.

BENJAMIN H. RIDGELY,
Consul.

GENEVA, *April 30, 1896.*

BICYCLES IN GREECE.

I have received a request for information on the following heads regarding the importation of bicycles into Greece:

(1) Rate of customs duties on finished bicycles.

(2) Rate of customs duties on rough or finished bicycle parts.

(3) Can any finished or unfinished part of a bicycle be shipped more economically under a changed classification? For example, can enameled bicycle frames be shipped as tubing and rated for duties accordingly?

(4) If rates or duties are discriminating, which are the favored nations as to bicycles and to bicycle parts, and what is the extent of the discrimination?

(5) Are there any facilities in the way of skilled labor at your port of entry for assembling bicycles from finished parts?

(6) Can goods be in Government storage preparatory to sales and prior to the payment of duties?

(7) Is there any transit duty?

(8) Will the duties be rebated for consigned goods that remain unsold and are shipped back; if so, are the formalities onerous?

(9) What are the steamboat facilities between your port of entry and New York, and which is the principal port of entry under the customs tariff?

(10) By what system are appraisements ad valorem made (if such apply to bicycles and bicycle parts)?

I answer these questions in order:

(1) Import duty, quay dues, municipal dues, with petty custom-house disbursements, amount to about $2, at present rate of exchange, per bicycle or tricycle.

(2) Any part of a bicycle is rated as a whole bicycle.

(3) Whole bicycles completely fitted is the most economical way of importation. Any attempts at declaring parts under changed classification are more likely to result in heavy fines, besides much higher rates of duty.

(4) No discrimination.

(5) Every facility exists, not only for assembling bicycles from finished parts, but even for making any part of a bicycle.

(6 and 7) There is a transit store at Piræus, but goods must be declared, cases or boxes opened, and contents ascertained and checked, and then

stored in transit. Afterwards, each case or box can be declared separately, paying duty, etc., of course. Uncleared cases or boxes can be shipped back. Goods can remain in the customs stores up to six months before being declared, but the storage charges are very heavy. In the transit depot they can remain up to two years, the storing charges being comparatively light.

(8) Duties once paid can never be rebated.

(9) Most Atlantic liners assure through bills of lading. Goods may be shipped via Liverpool, Marseilles, or Naples; reshipment is necessary at those points. Piræus is the principal port of entry.

(10) Ad valorem duties are levied on such goods as are not specified in the customs tariff. Bicycles are specified.

GEORGE HORTON,
Consul.

ATHENS, *May 6, 1896.*

BICYCLES IN SPAIN.

Eight months ago, there were not more than four bicycles in use in this city (Malaga); now, there are upwards of two hundred and fifty, all of which may be said to have actually come into use within the past four or five months. As yet, however, not one of what is called in Spanish "el sexo-bello" (the fair sex) has had the courage to try the wheel. I presume, however, it will not be long before some of the 70,000 of the "sexo-bello" of this city will make their debut on bicycles.

The object of this report is to give some information relative to the trade here for the benefit of our people engaged in the manufacture of the wheel. With such data as I have been able to gather, our manufacturers may be better able to ascertain what to do in order to secure some of this trade. If the bicycle for business and for pleasure has come to stay, its use will increase in this country, as well as in other countries, and we should have some of the export business in this line.

As I have stated, however, in former reports on the subject of our trade with this country, there are certain hindrances which must be removed before we can succeed in securing even an insignificant share in this new branch of our export business.

We have, in the first place, to compete with the English, French, and German manufacturers. If this means cheaper labor, as claimed by some, and lower cost of material in these countries than with us, this is a factor to be considered. In the second place, there is the item of higher freight rates against us. In the third place, as practically all articles of American manufacture now brought here come through an agent in some European city, he must have his commission, increasing the price of the article to the purchaser, which is another point against us. In the fourth place, is the higher duty that the purchaser must pay on the wheel that is brought from the United

States, as we are not included in the thirty odd countries with which Spain has commercial treaties.

These hindrances exist not only in the case of the bicycle, but it is the same on all manufactured products brought from the United States. If our manufacturers can arrange to send their wheels direct, the second hindrance will be removed, and the third will go with it. If the fourth hindrance be overcome, the second would be regarded as unimportant, by reason of the acknowledged superior energy, push, skill, and intelligence of our workmen. This accomplished, the track will be practically clear for the purchase of our wheels in this country.

I find, from the most reliable information obtainable, that the English-made bicycle is more largely used throughout Spain than any other. It is said to be superior in style and finish, with better steel, more durable, and, in fact, more satisfactory than the French or the German make. American wheels are not sufficiently known here to make a comparison in any respect with those of European manufacture. In the northern part of this country, there are said to be some American wheels in use, brought in, I am told, from France through French dealers.

The weight of the wheel in use is from 10 to 14 kilograms.* Some of the manufacturers send men as agents who can ride, furnishing them with a wheel and sending other wheels as samples, with catalogues, models, prices, etc. These work up the business, establishing agencies, the manufacturers allowing the agent a percentage on his sales. Sales are made for cash, on the installment plan, and at ninety days.

The names of the parties handling the bicycle in this city are Lorente y Garcia, Marcos y Gomila, Don Pedro Temboury, and Don Alfred Gambell. It would be well, perhaps, for our manufacturers to write to these parties, sending them catalogues, with models, prices, etc., but printed or written in Spanish.

A beginning has scarcely been made in this part of Spain in the use of the wheel. From what I am told, however, there is an increasing interest, which will grow and spread throughout the cities and provinces.

As nearly as I can ascertain, the cost of a bicycle to a purchaser here is from 500 to 1,400 pesetas, equivalent, in United States money, with the peseta at par, to from $100 to $280. The price depends on the material, make, place where purchased, freight, duty, and agent's commission.

The duty is the same on all bicycles entering this port which are manufactured in France, England, or Germany, viz, 70 pesetas per 100 kilograms. American bicycles pay 84 pesetas per 100 kilograms, or $2.80 more than from the above-named countries. As the frame in which the bicycle is put up is dutiable at the same rate as the bicycle itself, it should be of strong, but light, material. The packing of the French manufacturer is said to be the best as to lightness and strength.

The freight on each bicycle brought from France is, I am informed, about

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* 1 kilogram=2.2406 pounds.

7 pesetas ($1.40). When brought from England, it is 40 pesetas ($8) each, and from Germany 50 pesetas ($10). When, however, two or three are put up in one frame, the freight is somewhat less.

DAVID N. BURKE,
Consul.

MALAGA, *May 11, 1896.*

TRADE OPPORTUNITIES IN EASTERN ASIA.

In view of the fact that the present is a most critical time in the history of American commercial relations with eastern Asia and that every legitimate and reasonable effort should be made without further delay to develop and foster American interests, I have the honor to request the Department's consideration of the premises and conclusions respectfully submitted herein.

In presenting my views upon certain phases of a subject which finds, perhaps, a far greater field of action in other parts of eastern Asia than in Siam, I am prompted first by a deep sense of appreciation of the actual commercial opportunity afforded by this entire coast line from Vladivostok to Batavia, and which I have therefore given careful study and investigation, both before and since I had the honor of my present appointment, and, second, by a realization that this opportunity not only is not understood in the United States, but may not be until it is too late unless extraordinary efforts are put forth to awaken our exporters, shippers, and merchants to the necessity of immediate and continued exertion.

A mere display of colors, firing of guns, and "dress parade" will not do; there must be preparation for a struggle that may be somewhat protracted and for which the competitors are already strongly intrenched.

This picture might be viewed with discouragement were it not for the fact that the rewards to be won are worthy of the contest. There are, indeed, serious problems of oriental competition, cheap labor, etc., but I am not one of those who believe that for such reasons we should withdraw from this great extent of territory, population, and consequent opportunity. Rather should the endeavor of conquest be all the better organized and strengthened, especially in the light of the remarkable and renewed efforts now being made by Great Britain, Germany, and France to control the field. The louder the cry of cheap labor and competition, the harder their agents work, and the greater grow the number and cargoes of their steamers.

But mere general commercial reports will not suffice. At the present time, rather, should the reports be specific. They should inform American merchants (1) just what articles can be bought and sold, (2) at what prices they must be marketed, (3) what are their weak points in competition, (4) what are the strong points of competitors, (5) what exact opportunities are open, (6) how payments and collections can be made most favorably for sellers and buyers, and (7) what are the best and cheapest routes to reach the various markets.

Exhibits of all kinds of products and goods that are used extensively in the far East and can be exported from the United States should be made, say, with chambers of commerce in San Francisco, Chicago, and New York. This practice is becoming popular in Great Britain, Germany, and France, with excellent results, and there is no reason why the manufacturers and merchants of the United States should not be likewise assisted.

Commercial commissions similar to those sent out by commercial bodies in France and England would be optional with chambers of commerce of interested cities, such as those named above, and could undoubtedly do great good.

If Congress would see fit to make appropriation for commercial attachés of legations, who could devote themselves solely to studying and developing our trade relations in the different countries, valuable results might follow. At present, it is impossible for ministers or consuls, with their other and manifold duties and limited number of assistants, to devote the needed attention to this very important work, although they are now doing all in their power.

In this connection, it is well to note the recent action of the British Foreign Office in detaching the consul at Canton temporarily from his post to make the same kind of study of the same field for British interests. This step has been applauded by the manufacturers and exporters of Great Britain and was the principal point discussed in a recent address of Mr. Curzon on the "Trade of the Far East."

JOHN BARRETT,
Consul-General.

BANGKOK, *March 11, 1896.*

REGISTRATION IN THE HAWAIIAN ISLANDS.

I have the honor to inclose herewith a copy of an "act to provide for the registration of male residents in the Republic of Hawaii," which became a law on the 17th instant.

ELLIS MILLS,
Chargé d'Affaires ad interim.

HONOLULU, *April 26, 1896.*

AN ACT TO PROVIDE FOR THE REGISTRATION OF MALE RESIDENTS IN THE REPUBLIC OF HAWAII.

SECTION 1. There shall be established under the supervision of the Minister of the Interior a register of all male persons over the age of 15 years, now or hereafter resident in the Republic of Hawaii, to be known as the "national register." In such register, there shall be recorded concerning each such person, his name, age, place of birth, residence, and marriage (if married), date of arrival in the Hawaiian Islands, if born in a foreign land, and the port of departure for such islands, calling or occupation, and if an employee in any capacity, the name of the employer, place where he is employed, and the nature of the employment, and such physical description as may be necessary to identify him. There shall also be kept a record of the change of residence or employment of each such person and of such other facts as the Minister of the Interior may direct. Such register shall be in the form set forth in the schedule hereunder, or such modification thereof as the Minister of the Interior may by rule direct.

SEC. 2. It shall be the duty of every person liable to registration under this act to register in accordance with its terms on or before the 1st day of August, A. D. 1896, and every male person over the age of 15 years thereafter coming into the Republic shall register immediately upon landing. Each such person shall, under oath or affirmation, give to the respective registrar before whom he may register all information necessary to complete the record herein provided for.

SEC. 3. For the purpose of registration, the Republic of Hawaii shall be and is hereby divided into registration divisions, coextensive with the divisions for taxation purposes. Each such division shall be divided into districts, coextensive with the taxation districts indicated in Chapter XLIV of the session laws of 1886.

SEC. 4. The person acting as secretary of the board of immigration is hereby appointed general superintendent of registration. The several tax assessors are hereby appointed superintendents of registration in and for their respective districts. The Minister of the Interior shall have the power to subdivide any registration district and to appoint additional registrars therefor, if in his opinion the public convenience requires such action. The several registrars, subject to the supervision of the superintendents of registration, are hereby charged with the duty of carrying out the provisions of this act in their respective districts. The several superintendents of registration in and for their several divisions, and the general superintendent for the whole country, shall, subject to the general supervision of the Minister of the Interior, supervise the carrying out of the provisions of this act. The several registrars shall receive as compensation for their services under this act the sum of 5 cents for each name registered hereunder, to be paid out of the treasury from any money appropriated for that purpose. The general superintendent and superintendents shall receive for this purpose no other compensation than that now provided for them.

SEC. 5. The Minister of the Interior shall from time to time make and publish rules and regulations, and alter and amend the same in his discretion, for properly carrying out the provisions and intent of this act, which rules and regulations so made and published shall have the force of law.

SEC. 6. Immediately after the passage of this act the Minister of the Interior shall cause to be prepared in the Hawaiian, English, Portuguese, German, Japanese, and Chinese languages, and such other languages as he may think necessary, and publish in each of the registration districts a notice that on the hours and dates therein mentioned the registrars for such districts will be at the places therein mentioned for the purpose of registration under this act. Such places shall be selected as much as possible for the public convenience. There shall be at least five sittings of not less than an hour's duration each, and as many more as may be necessary, in each of the registration districts, for the purpose of registration, until the completion of the registration, except as hereinafter provided, not later than the 1st day of August, A D. 1896.

SEC. 7. The several superintendents and the several registrars are hereby authorized to, at all times, register any person not theretofore registered and to administer any oath or affirmation provided for and required by this act.

SEC. 8. Upon the change of residence of any person registered as hereinbefore provided, or change of his employment or employer, such person shall present his certificate of registration to the registrar of his registration district to have indorsed thereon the fact of such change of residence or employment, and shall within thirty days after each change surrender his certificate, indorsed as aforesaid, to the registrar of the district (in case of change of residence) where he then resides, and such registrar shall thereupon issue a new certificate to such person. Upon the death of any male person over the age of fifteen years, it shall be incumbent upon a relative, employer, executor, or administrator, to notify the registrar of the district where such death happens of the death of such person. Upon the departure from this Republic of any person who, under the provisions of this act, is compelled to register, he shall surrender his certificate of registration to the collector of customs of the port from which he is about to depart, and the collector of customs shall not issue a passport to such person until said certificate is so surrendered. Such certificate of registration shall forthwith be sent by the collector of customs to the registrar of the district where such male resident resided previous to his departure from the Republic. Any person violating the provisions of this section shall be guilty of a misdemeanor, and, upon conviction, be punishable by a fine not exceeding $50.

SEC. 9. Every person liable to registration who shall fail to register himself as required by this act, or to give the information required in the form of the registration certificate given in the schedule to this act, or which may be required to be given by any rule promulgated by the Minister of the Interior, or to present his certificate to the registrar for indorsement as provided in section 8 of this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not exceeding $50; provided, however, that if it shall appear to the court that such failure to comply with the law shall have been by reason of forgetfulness simply, such fine shall not exceed $5.

SEC. 10. Every person registering under this act shall, upon registration, receive from the registrar of his registration district a certificate of registration in the following form, or such modification thereof as the Minister of the Interior may by rule direct, viz:

Certificate of registration No. ———, island of ———, district of ———.

This is to certify that on this ——— day of ———189 , ——— has registered in this district.

A description of said person is as follows:

Age, ———; country of birth, ———; residence, ———; port of departure for the Republic of Hawaii, ———; date of arrival here, ———; married or single, ———; occupation, ———; location of occupation, ———; name of employer, ———; residence of employer, ———; distinguishing marks of feature, ——— ———; signature, ———; ———, registrar, district of ———; thumb mark, ———; island of ———.

SEC. 11. Every employer of workmen, whether an individual, copartnership, or corporation, shall, during the month of August of each year, furnish to the registrar of his district a complete and true list of the names of all males over the age of 15 years employed by such individual, copartnership, or corporation. The correctness of such list shall be sworn to by the person presenting the same or by the copartners, or by an officer of such corporation, respectively. Every employer of workmen who shall fail to comply with the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding $50.

SEC. 12. The general superintendent, every superintendent and every registrar, constable, police officer, sheriff, marshal of the Republic of Hawaii, and their deputies, and every magistrate, judge, or justice of any court in the Republic of Hawaii may, at any time, require any person liable to registration under this act to produce his certificate of registration; and every person failing or refusing to produce such certificate shall be guilty of a misdemeanor and punished by fine not exceeding $5, unless such person shall show to the satisfaction of the court wherein he is prosecuted for such refusal or failure that he has lost his certificate of registration and has applied to the proper registrar for a new certificate to replace the one which is lost, and shall produce such new certificate.

SEC. 13. Any person registered under this act who has lost his certificate of registration shall, upon application to the registrar of the division wherein such person resides and upon payment of a fee of 25 cents, receive a new certificate, in lieu of that which is lost, upon his written statement, under oath or affirmation, of such loss. The registrar to whom the application is made for a new certificate, unless satisfied that the applicant is the person he represents himself to be, shall require satisfactory evidence of the identity of the applicant before granting such new certificate. Such new certificate when issued shall be marked "duplicate" and shall have the number of the original certificate indorsed thereon.

SEC. 14. Any person who shall knowingly make any misrepresentation upon effecting his registration, or upon applying for any certificate of registration, or who shall make or attempt to make use of a certificate of registration other than a certificate issued to him, shall be guilty of a misdemeanor and punished, upon conviction, by a fine not exceeding $50.

SEC. 15. Any person who shall, under oath or affirmation, willfully make any false statement relative to any matter concerning which a statement may by this act be required, shall be guilty of the crime of perjury in the second degree.

SEC. 16. The registrars shall keep in their respective registration districts a record or register, in the form hereinbefore prescribed, of all registrations made by them up to the 1st day of August, A. D. 1896, and, within fifteen days thereafter, shall furnish to the general superintendent of registration a transcript of such record or register, and thereafter, in the months of August, November, June, and September in each year, shall furnish to the general superintendent of registration a record of all changes in said registers occasioned either by departure from the district, death, or by changes of residence, occupation, or employers. Such transcripts shall be copied in a proper book, which shall be the National Register. The entries in any such record or book shall be *prima facie* proof in all criminal prosecutions under this act.

SEC. 17. The Minister of the Interior shall furnish all necessary books, certificates, forms, and blanks required by this act, a schedule of forms being hereafter set forth.

SEC. 18. Each registrar shall take oath or make a solemn affirmation that he will faithfully perform the duties of his office.

SEC. 19. The several district magistrates of the Republic of Hawaii shall have jurisdiction in their respective districts to try and determine all misdemeanors under this act, and all complaints for the violation of any of its provisions, and to impose any penalties herein prescribed.

SEC. 20. The following forms are for use in carrying out the purposes of this act:

SCHEDULE OF FORMS REFERRED TO.

Island of ———, *ss.*

I, ———, of ———, on the island of ———, Republic of Hawaii, do hereby solemnly swear (or affirm) that I am (an employer of, or a partner of the firm of ———, who employs, or an officer of ———, a corporation, who employs) the following-named persons, whose nationality, so far as known to me, and whose occupations are set opposite to their respective names, and that the list of said names, nationality, and occupations is correct according to the best of my information and belief, so help me God.

——— ———.

Sworn to (or affirmed) this ——— day of ———, A. D. ———, before me.

——— ———.

National register of the Republic of Hawaii—certificate of registration.

No. ———.

Registration division No. ———, precinct No. ———, meeting place, ———, island of ———, ——— day of ———, 189 .

I hereby certify that the following is a correct copy of the registration of ———, of ———, and his (family, wards, or employees), as it appears on the register of this division.

(Signed,) ——— ———,

Registrar.

Transfer.

[To be indorsed upon certificate of registration.]

The within-named ——— transferred his residence from ——— to ———, changed his occupation from that of ——— to that of ———, and his employer from ——— to ———, residing at ———.

——— ———,
Registrar.

Registration division No. ———, ——— day of ———, 189 . Precinct No. ———.

[Stub.]

National register of the Republic of Hawaii.

No. ———.
Date of registration, ———.
Name, ———.
Age, ———.
Residence, ———.
Country of birth, ———.
Port of departure for the Republic of Hawaii, ———.
Date of arrival here, ———.
Married or single, ———.
Occupation, ———.
Name of employer, ———.
Residence of employer, ———.
Date of transfer or change, and where to, ———.
Date of death, if in the Republic of Hawaii, ———.
Date of departure from the Republic of Hawaii, ———.
Registration division No. ———.
Precinct No. ———.
Meeting place, ———.
Island of ———.
Registrar, ———.

National register of the Republic of Hawaii.

No. ——. Registration division No. ——. District No. ——. Name of meeting place, ——. Island of ——.

No.	Date of registration.	Name.	Age.	Residence.	Nationality.	Country of birth.	Port of departure for the Republic of Hawaii.	Date of arrival here.	Married or single.	Physical description.	Occupation.	Name of employer.	Residence of employer.	Date of transfer or change, and where to.	Date of death.	Date of departure from the Republic of Hawaii.

SEC. 21. This act shall take effect from and after the date of its publication.

EXPORTS FROM THE HAWAIIAN ISLANDS.

I have the honor to inclose herewith a table showing the exports from this consular district for the years 1894 and 1895, together with the increase and decrease in various articles of export during those years.

Exports from the Hawaiian Islands.

Articles.	1894.	1895.	Increase.	Decrease.
Awa root	$171.10	$1,448.85	$1,277.75	
Bananas	105,184.51	71,136.97		$34,047.54
Betel leaves		345.00	345.00	
Coffee	23,343.29	19,493.97		3,849.32
Copra	952.40			952.40
Hawaiian exhibits	2,912.50	802.50		2,110.00
Hides and skins	40,861.34	61,975.01	21,113.67	
Honey	120.40	188.35	67.95	
Household goods	9,014.75	11,741.66	2,726.91	
Horns and bones	355.00			355.00
Paintings	1,030.50	1,002.50		28.00
Pineapples	8,790.73	4,874.09		3,916.64
Prune juice	408.70			408.70
Molasses	1,582.23	2,707.68	1,125.45	
Ostrich feathers	252.50	300.18	47.68	
Returned goods:				
Empty beer kegs	6,371.00	6,696.00	325.00	
Empty bottles	3,851.02	2,796.88		1,054.14
Miscellaneous	9,617.29	14,108.94	4,491.65	
Wines and liquors	27,464.76	9,958.35		17,506.41
Rice	361,541.60	165,523.36		196,018.24
Sperm oil	102.50	3,274.50	3,172.00	
Sugar	8,517,606.22	8,134,338.61		383,267.61
Sundries	4,583.48	4,100.28		483.20
Wool	19,458.92	10,067.93		9,390.99
Total	9,145,576.74	8,526,881.61	34,693.06	653,388.19

ELLIS MILLS,
Consul-General.

HONOLULU, *May 6, 1896.*

DAMAGE TO CROPS IN SPAIN.

About two months since an article appeared in one of the papers of this city stating that in some of the northern central provinces of Spain the growing wheat had been attacked by a small insect which threatened, unless some remedy were found to prevent its spread, to overrun all Spain and to become such a pest to wheat as the phylloxera was and is to the vine.

Suggestions were made to the authorities to take some measures to check the further spread of the insect and its ravages and to prevent what would surely become a national calamity. So far as I know, no such measures have been taken. But the damage to the wheat crop by the insect in two or three provinces to which it is confined is as nothing compared with the loss the people throughout Spain will sustain because of the prolonged drought. Not only will the wheat crop be a failure, but there will be a shortage of every other crop of grain produced in the country, according to statements made daily in the press.

The terrible effects of the drought are now felt in nearly every province in the advance in price of all kinds of grain. The poor, of course, suffer most. The consequences can not but be much more serious before the close of the year, unless rain comes very soon, as the vines and the fruits of this part of the country will become a total loss.

During the months of October, November, and December, 1895, there were but fifteen days of rain and six partly rainy days. Since January 1 last there have been but ten days upon which rain has fallen in this city. However, but seven of these ten could be called rainy days. In the month of March, it rained but one day in the city, and in April but part of a day. With only twenty-five to thirty days' rain during the past eight months and but two partly rainy days during the months of March and April, it is clear that all crops must prove a partial failure.

Great suffering and want will prevail throughout the whole country unless the drought comes to an end very soon. Efforts will be made to have the Government reduce or remove the tariff on wheat until the food crisis shall pass. Were the present duty on foreigh wheat removed, it would make a considerable difference in the purchase price to the consumer. In the fiscal year 1892-93, the duty collected on the wheat entered at the different ports of this country is stated at 26,750,000 pesetas; in 1894-95, 30,000,000 pesetas. The duties collected last year were much less on account of the very much larger yield of the country, owing to the favorable conditions which prevailed.

The present duty on wheat is 8 pesetas (at par equivalent to $1.60) per 100 kilograms (220.46 pounds). Very little corn is consumed in this part of Spain. The duty on corn is 4.40 pesetas (about 88 cents) per 100 kilograms.

It is conceded by all that the importations of wheat to be consumed in Spain during the current year must be large.

DAVID N. BURKE,
Consul.

MALAGA, *May 1, 1896.*

END OF THE DROUGHT—SPANISH DEMAND FOR WHEAT.

Within the last fifteen days, copious rains have fallen in various points in Spain. In some of these localities, the rain was preceded by violent winds, which damaged the crops in the fields; still, the outlook is certainly more favorable than it was two weeks ago. Independent of the condition of the crops throughout this country, Spain has been a large importer of wheat during the last twenty years, and will continue to be a good purchaser for some time to come. From 1870 to 1875, the production of wheat in this country amounted to 450,000,000 pounds in excess of what was consumed at home. This surplus has not only vanished, but, at this time, the annual imports are about 600,000,000 pounds in excess of the quantity that is exported.

The substitution of the vine for the cereal, the demand for hard wheat, the desire to vary the system of cultivation, and the cheapness of foreign grains are the causes which have led to the diminution in the production of wheat in Spain. However, the main cause may be attributed to the substitution of the vine for the cereal.

The exports of wine in 1895 amounted to nearly 240,000,000 gallons more than the exports of the same article in 1877. In 1878, the country began to import wheat. From 1870 to 1877, inclusive, Spain was an export nation in wheat and flour. The excess of the exports over the imports of these articles during that period was 464,000,000 pounds of wheat and 725,000,000 pounds of flour. From 1878 to 1895, inclusive, the imports of wheat amounted to the enormous quantity of 7,600,000,000 pounds, while the exports were but 440,000,000 pounds of flour.

In looking over the maps, I fail to see where any agricultural country, that has grain to export, could have the advantage over the United States in the matter of distance and shipping facilities. It seems fair to presume that, with a direct line of vessels, wheat and flour could be transported from our eastern ports to the Mediterranean more cheaply than from either Russia or India.

Would it not be of advantage to establish a line of vessels to the Mediterranean, and would not such a line open a profitable market for a part of our immense surplus of wheat and other products that might be advantageously marketed in this country?

ANDREW F. FAY,
Consul.

DENIA, *May 13, 1896.*

SUMATRA TOBACCO FOR THE UNITED STATES.

I forward, under separate cover, a pamphlet entitled Sumatra Tobacco, issued by Henri Dentz, sworn tobacco broker, at Amsterdam.* Permit me to call special attention to remarks on pages 6 and 7, which are as follows:

> A striking feature in the history of the cultivation of tobacco on the island of Sumatra has been its introduction in the United States, and, of late years, the ever-increasing success of Sumatra tobacco is mainly due to its adoption by the American cigar manufacturers, who, early in the eighties, commenced to appreciate the numerous qualities of the famous leaf, and since that time, range among its most fervent supporters.
>
> The imports into the United States soon took such proportions that at one time it reached nearly one-third of an entire crop.
>
> It is hardly necessary to state that, from that time on, the Sumatra produce realized in Holland very remunerative prices, owing to the strong competition prevailing among the European and the American buyers, and owners of estates on the island then harvested very extravagant profits indeed. This lasted until the year preceding the great tobacco crisis, which occurred after the introduction of the McKinley Tariff in the United States.

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* Filed in Bureau of Statistics, Department of State.

The Washington Government, urged on by the seed-leaf growers, became alarmed and thought to be able to prevent the importation of Sumatra tobacco by levying a very high duty on its entry into the United States. The highly protective McKinley Tariff, imposing a duty of $2 per pound (since reduced to $1.50) on the East Indian produce, was voted upon in September, 1890, and shortly afterwards went into force.

It is true, that all kinds of wrapper leaf is equally subject to the $1.50 rate of duty, but as no other foreign wrapper leaf, except some Cuban tobacco, is imported into the United States, it is very plausible that, in reality, the increase of duty, by not less than about 600 per cent, was meant to keep out the doomed Sumatra tobacco. This is the more ostensible since it is generally admitted that Habana wrappers nowadays freely pass into the United States at the binder and filler rate of duty (35 cents per pound), violating the existing commercial treaty with the Netherlands, whereby, according to the clause of the most-favored nation, the East Indian produce can not be differentially rated to those of other countries.

But notwithstanding the abnormal high rate of duty, which at first was thought to be equivalent to a prohibitive duty, shortly afterwards proved to be a complete failure in so far as not more than two years were needed to bring the importation up to its previous height.

More than any other argument, the preceding lines are striking proofs that in such countries where Sumatra tobacco is once introduced no human being can legally keep it out.

Unfortunately, it has been since shown that, notwithstanding this renewed large import, the high duty imposed upon the article is greatly detrimental to the interests of the United States importers and manufacturers. The manufacturers, for the sake of competition, entertain serious fears to raise the price of their cigars, the consequence being that the importers greatly suffer by it, as they are continually cut down in their legitimate profits.

This state of affairs does not help the seed-leaf growers any, while, on the other hand, it paralyzes the business of a once flourishing branch of commerce. On the contrary, the seed-leaf growers are equally cut down in their prices, owing to the fact that the cigar manufacturers have to make up in some way or another for the difference in duty, and, for this reason, can not afford to pay as much as they used to for their binder and filler material.

EDWARD DOWNES,
Consul.

AMSTERDAM, *February 20, 1896.*

TRADE AND FINANCES OF HAITI.

I transmit herewith the annual report of the National Bank of Haiti, and also some statistics showing the volume of trade.

The figures given in translation embrace only that proportion of the exports and imports of merchandise upon which the bank, as the fiscal agent of the Government, has "collected the duties." Owing to the abuses which have become a part of the customs service and which are known to exist by the Government, a proportion of both exports and imports, which, I am convinced, amounts to four-tenths of the total, evades the duties and hence forms no part of the published aggregate. The only explanation one can give of this condition is that it has always been so, and that no one expects it to be otherwise. There are not lacking, however, many men who predict that in the end the customs will be administered in the interest of the holders of the bonded debt and under the auspices of some foreign Government or syndicate. There is no direct tax on property, and the whole revenue is raised from customs duties, which, administered properly, would easily create a surplus, but which at present appear to be inadequate to meet current expenses.

Revenues from October 1, 1894, to September 30, 1895.

Localities.	Customs dues on exportations and divers receipts.	Customs dues on importations and divers receipts.
		*Gourdes.**
Port-au-Prince	$601,911.09	1,444,703.35
Cape Haitien	499,103.54	760,470.09
Jacmel	631,723.35	394,236.58
Jeremie	262,536.40	209,738.49
Gonaives	375,243.93	286,618.27
Aux Cayes	402,974.02	481,623.13
St. Marc	137,293.56	132,135.97
Port de Paix	144,185.99	154,755.10
Petit Goâve	284,583.39	161,910.70
Miragoane	57,399.56	59,506.22
Aquin	45,159.42	22,291.23
Total	3,442,114.25	4,107,989.13

*1 gourde=96.5 cents in American currency.

Exports from October 1, 1894, to September 30, 1895.

Articles.	Port-au-Prince.	Cape Haitien.	St. Marc.	Gonaives.	Port de Paix.	Petit Goâve.
Coffee ... pounds	14,514,407	9,745,360	1,163,607	7,010,863	2,123,351	7,908,674
Cocoa ... do	6,378	286,546		346	16,929	86,236
Logwood ... do	6,810,000	37,324,750	30,803,000	22,191,500	23,013,003	14,000
Cotton ... do	5,426		154,242	41,919		
Mahogany ... feet	2,150	202	1,000			
Gum guaiac ... pounds	25,950					
Old copper ... do	4,578	800				
Rum ... gallons	315					
Honey ... do	6,248					
Goatskins ... packages	139	121				
Tanned hides ... rolls		352				

Articles.	Miragoane	Jeremie.	Aquin.	Aux Cayes.	Jacmel.	Total.
Coffee ... pounds	967,606	5,633,720	913,966	8,877,708	16,512,603	75,371,865
Cocoa ... do		1,895,113				2,291,548
Logwood ... do	3,999,000	882,800	5,440,000	6,760,000	804,000	138,042,053
Cotton ... do						201,587
Mahogany ... feet						3,352
Turtle shell ... pounds					251	251
Gum guaiac ... do				7,000		32,950
Old copper ... do						5,378
Rum ... gallons						315
Honey ... do						6,248
Do ... pounds					154,832	154,832
Orange peel ... do					14,744	14,744
Do ... bags				30		30
Goatskins ... packages						260
Do ... pounds					796	796
Tanned hides ... rolls						352

HENRY M. SMYTHE,
Consul-General.

PORT-AU-PRINCE, *May 8, 1896.*

NOTES.

The British Consular Service and Foreign Trade.—Consul Meeker writes from Bradford, April 18, 1896: I inclose an editorial cutting from the Liverpool Daily Post, of April 9, 1896, on the subject of the "British consular service and foreign trade." There are points made in the article that it might be well for American manufacturers and exporters to consider. The article is as follows:

British manufacturers often complain that the Foreign Office does much less for them in the direction of pushing British trade abroad than is done for their subjects by the foreign ministries of other powers. But if they would read with care and attention the consular reports on trade, they would learn that much more of the success of the foreign rivals, whom they regard with such jealousy, is due to their own remissness than to the commercial enterprise of foreign diplomacy. Our consul at Barcelona, Mr. Wyndham, in his report to the Foreign Office, explains, as many of his fellow consuls have done before, how it is that French and German competitors succeed in ousting British traders. It is not that Spanish customers are fickle. On the contrary, Consul Wyndham asserts that "buyers here are very reluctant to change where they have been well and fairly dealt with." The fault lies with the British producer, rather than with his customer. Mr. Wyndham does not ignore the fact that cheaper wages and longer hours on the Continent enable the foreign manufacturer to produce goods at a lower figure than the English, but he points to some other causes which tell perhaps even more heavily against British goods. He says:

"I think if closer attention were paid by British firms to details, and every care were taken to meet the wants of the customer in each shipment by seeing that no goods about which there was the slightest doubt were shipped, a step would have been taken in the right direction toward maintaining British reputation, and consequently toward at least retaining such hold on the trade as at present exists. Complaints are frequently made here by importers from Belfast and Dundee that the goods sent are not those ordered, and vexatious and expensive questions are the result, and especially is this the case with repeat orders. It frequently happens that a merchant sends a repeat order to either of these places for a certain article, and is supplied with something quite different; while, if he sends his order to France, for example, although it may be years after the original order was given, he is supplied with identically the same article both in quality and color."

These are no new complaints. They have appeared in very much the same terms in consular reports from all parts of the world, and they show that the British manufacturer has not yet abandoned his rather arrogant idea that foreigners ought to buy whatever he pleases to send them, and have no business to be so excessively particular. The foreign manufacturer—who, if German, has probably picked up his knowledge of foreign trade while working for next to nothing as clerk in a British merchant's countinghouse—learns to avoid the mistakes of his British rival, and to produce not merely what he wants to sell, but what his customers are anxious to buy. This is the true method of doing business, and the sooner the British manufacturer grasps this fact, and resolves to spare no pains to carry it out in practice, the sooner he is likely to have the pleasure of looking on at the discomfiture of his foreign rivals.

Horticultural Exhibition of Hamburg in 1897.—In a report dated April 2, 1896, Consul Robertson, of Hamburg, says: I have recently received from the Hamburg foreign office a communication advising me of a proposed horticultural exhibition to be held in this city in 1897, and inclosing a list of the members of the committee in charge of the same. At the request of the foreign office, I transmit herewith a translation of this communication. In acknowledging its receipt, I made the request that I should be kept posted on the progress of all matters connected with the exhibition, with a view to reporting further to the Department, in order that it may give such publicity to the matter as it may deem proper. All communications from would-be exhibitors or others interested in the exhibition should be distinctly and exactly addressed as follows: "Au das Comité für die Allgemeine Gartenbau Ausstellung in Hamburg, 1897."

[Translation.]

To Mr. ROBERTSON,
Consul of the United States.

A few months since, the citizens mentioned in the inclosed list and belonging to the most respected circles of our city, under the presidency of his munificence Burgomaster Dr. Mönckeberg, organized themselves into a committee, which intends holding an international horticultural exhibition in this city in the year 1897. Everything pertaining to horticulture and botanical culture is to be presented in this exhibition, which will remain open to the public during the entire summer, and thus be by far larger and more important than any former exhibition of a similar character.

As an exhibition ground, the state will turn over to the committee the territory situated east of the Heiligengeistfeld, between Millernthor and Holstenthor, which appears particularly well adapted for this purpose. The preparations for the exhibition have, since the organization of this committee, been well advanced, and through the signing of a considerable guaranty fund, the undertaking has been financially secured.

As the management of the undertaking lies with experienced persons and the Government authorities are prepared to give it every assistance, all guaranties for the realization of the committee's expectations for the success of the exhibition would appear to be given.

The details of the programme, and particularly the regulations to be observed by exhibitors and the conditions of the competitions, are being drawn up. As soon as they shall have been completed, your Government will also be requested to lend its kind support to the undertaking, particularly by appointing a commissioner.

Believing that it would interest your honor to now be advised of this prospective undertaking, I have deemed it proper to impart this preliminary information.

Trusting that your honor will also lend your highly esteemed support to the undertaking and will bespeak a favorable reception for the same with your Government, I with pleasure embrace this opportunity for renewing the assurances of my highest esteem and respect.

VERSMANN.

Pharmaceutical Exhibition at Prague.—Consul Hurst writes from Prague, May 16, 1896: The Pharmaceutical Society of Prague has arranged for an International Pharmaceutical Exhibition to take place in Prague from August 15 to September 15, this year. No pains have been spared to make the exhibition successful, and it is hoped that those in the United States interested in the undertaking will lend their cooperation. The exhibition, which is officially patronized by the public authorities in this country, will be held in the permanent exhibition palace in the Baumgarten, the chief park of Prague. Arrangements have been made for the free passage through the custom-house of foreign exhibits. Space for exhibits will be charged for as follows: In the body of the hall, 20 florins ($8) for each square meter occupied; next to the walls, 10 florins ($4) for each square meter; for objects to be hung on the walls, 5 florins ($2) for each square meter. No one may engage less than 1 square meter, but exhibitors taking at least 10 square meters in the body of the hall pay 16 florins ($6.40) per square meter, or 8 florins ($3.20) if they use at least 10 meters next the walls.

Any further information will be gladly given to correspondents by the chairman of the exhibition committee, Mr. Hermann Ruedinger, pharmaceutical chemist in Prague, or by the secretary, Mr. Emil Graf, editor of the Prague Pharmaceutische Rundschau.

Mr. Arthur Gobiet, who is the official representative of the executive committee, will take complete charge of exhibits sent to him from America, having the exhibits unpacked, cleaned, put in place in the exhibition building, representing the exhibitor with the public and with the jury of awards, and again repacking the goods. He asks for his labor only 30 florins ($12) for each square meter occupied by the exhibitor. The exhibition is classified in groups, thus:

I. Scientifical apparatus and instruments used in chemistry and in the kindred branches.
II. Literature, with reference to pharmacology and the kindred sciences.
III. Machines and instruments for the production of drugs.
IV. Arrangement of chemists' shops and objects used in the trade.
V. Goods serving the purposes of chemists, chemical and pharmaceutical preparations.
VI. All sorts of writings, books, statistical tables, instruments, utensils, expedients referring to the history of pharmacy.
VII. Chemist's unions and corporations.
VIII. Hygiene and attendance of patients.
  (1) Arrangements of the household; objects of common use from a hygienic point.
  (2) Clothing, from a hygienic point.
  (3) Food of the people, from a hygienic point.
  (4) Means of disinfection, perfumes, chemicals for purifying air and water, heating, illumination, and ventilation.
  (5) Toilet articles, with special regard to health.
  (6) Popular scientific works and pamphlets on hygiene; first assistance in accidents.
  (7) Sanitary arrangements in hospitals, stations of relief, litters, carts for the conveying of patients.
  (8) Bacteriological and microscopical preparations.
  (9) Hygienic and professional protecting measures.
  (10) Mineral waters and spring products.
  (11) Arrangement of baths and healing places; gymnastics, with a view to health.

Antidiphtheritic Serum as a Preventive.—Commercial Agent Moore reports from Weimar, April 23, 1896: Much discussion has arisen in medical circles in Germany and France from the death of a child of Dr. Langerhans, of Berlin, after having been inoculated with Heilserum (antidiphtheritic serum) for the purpose of preventing diphtheria.*

A servant in Dr. Langerhans's family was thought to have diphtheria and was sent to the hospital under that impression. Dr. Langerhans himself inoculated, as a precaution, his son, a child of 16 months, in perfect health. Death resulted in less than one hour. The bottle from which the serum used in the inoculation was taken, came, as was afterwards ascertained, from the Hoechster Farbwerke, near Frankfort, where serum was first manufactured in Germany, and had been made four months previously, and subjected to inspection at the official control station at Berlin, where all serum must be submitted for chemical analysis to discover if it contains the fixed units of protection, is free from bacteria, and that the 0.5 per cent of carbol necessary for its conservation has not been exceeded.

The serum in question was found to belong to the class called "Heilserum No. 1," the weakest manufactured, and had, after having undergone examination, been pronounced pure. Some bottles of the same serum were found, and, upon reexamination, also proved to be pure. Most of the same serum had long since been sold, and, no doubt, many hundreds of bottles of like quality and manufacture were used in injections.

In Berlin, at the City Hospital, "am Urban," several sick persons, both adults and children, received injections of the same serum without suffering any ill effects.

Many theories were expressed as to the probable cause of the death of Dr. Langerhans's child, such as impure serum, an unsterilized syringe, bacteria poison, etc. These surmises have all since proved to be incorrect. Professor Eulenberg pronounced it as his belief that the serum had entered into a vein; this was disproved by the autopsy. The result of the autopsy showed the child to have been perfectly sound physically, and that no fault in the injection of the serum had been made. It is therefore believed that death resulted from a physical shock caused by pain or terror and a sudden violent excitement of the whole nervous system, which, paralyzing the heart, caused immediate death.

A child younger even than Dr. Langerhans's received an injection of 15 cubic centimeters of the same serum without bad consequences; this is ten times the quantity given the child of Dr. Langerhans. The carbol could not have caused the death, since the child received in all 1½ cubic centimeters of serum, containing 7½ milligrams of carbol, a quantity too small to cause death, even in so young a child, much less in such a rapid and striking manner, death having occurred a few minutes after the injection was made. Nor could bacteria poison have caused the death, since it is the opinion of the most eminent bacteriologists that the slow effects of such poisons are characteristic and notorious.

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*See dispatch from Ambassador Uhl, printed in CONSULAR REPORTS No. 188 (May, 1896), p. 151.

This unhappy accident is held to have proved that the injection of serum in a healthy person for prevention is a dangerous practice. That the treatment in real cases of diphtheria is one of the most wonderful discoveries in modern medicine, can not be doubted; the good resulting from it is unapproached by any other method of treatment. In this connection, the statistics of death from infectious diseases in Paris bear eloquent testimony. The average death rate from diphtheria in 1890–1894 was 1,341; in 1895, only 435, a decrease of 60 per cent. It would therefore seem that serum has stripped the dread disease of half its terrors.

An Inscription on the Parthenon.—Consul Horton, of Athens, writes to the Department March 5, 1896: I have to report an archæological discovery of extreme interest recently made by a student in the American School of Classical Studies of this city. I refer to the deciphering of an inscription on the architrave at the east end of the Parthenon. The face of the eastern architrave is thickly dotted with small holes, and for many years, scholars have been under the impression that these holes were the traces of nails which had once held fast the letters of an inscription. It had also been suggested from time to time that a study of the nail holes might give some clew as to the letters themselves, which long ago were torn down, doubtless for the sake of the metal which they contained.

The difficulty of such a task, which has defied the archæologists until now, is evident. The architrave is about 100 feet long, and the holes extend over 90 feet of its length. They dot thickly spaces from 3 to 4 feet in length, between which are circular blanks, where shields about 4 feet in diameter hung at intervals. Various attempts have been made, chiefly by German archæologists, to "read the nail holes." The most notable of the methods employed have been photography and transcribing with the aid of magnifying glasses.

No attempt met with any success until Mr. Eugene Plumb Andrews, of the American School, hit upon a practical method. He threw a rope over the eastern end of the ruined building, and pulled up a rope ladder. Then, he suspended a swing in front of the architrave 37 feet from the marble step below, and took what is known as a "squeeze" of the holes. His method was ingenious. Damp "squeeze" paper was first applied to the surface of the stone, and patted well down with a brush. The paper broke through over the holes. Mr. Andrews then forced extra strips into each of the openings and lapped their ends down on the large sheet. When he had thus treated all the holes, he laid another sheet over the first to hold the ends of the strips in place, and pounded all together into one solid sheet, on which the exact position of the nail holes was represented by protuberances.

Mr. Andrews was about one and a half months making his squeezes, twelve in all, representing the twelve spaces between the shields. Then, he arranged them in order and began studying them. His greatest difficulty occurred at the start. He did not know whether the inscription ran straight across all the squeezes or whether the squeezes were to be read separately, as the pages of a book.

Moreover, the ancient workman who had nailed up the letters had made numerous mistakes, so that many of the holes were treacherous and confusing.

Mr. Andrews, however, persisted, and light began to dawn. He found, for instance that three holes placed thus $_\circ{}^\circ{}_\circ$ indicated either a △ or a Λ, the metal letter having been nailed at its three corners, and that three holes placed thus $\circ\,{}^\circ_\circ$ showed where an O had been nailed.

He made a transcript of the squeezes on a long strip of paper, marking the locality of the protuberances with dots, and then attempted to form the ancient letters by drawing lines from dot to dot. Finally, he deciphered the word "Autokratora," which proved that the inscription had been Roman, and not, as formerly supposed, of an earlier date. The word "Nerona," threw further light on the matter.

Here was evidently the dedication of a statue to the Emperor Nero, and the reading was simplified by a study of other similar inscriptions, as the same phraseology is used in all. The inscription, as Mr. Andrews reads it, is translated substantially as follows:

> The council of the Areopagus and the council of the 600 and the people of the Athenians erect this statue of the Very Great Emperor Nero Cæsar Claudius Sevastos Germanicus, the Son of God, during the generalship over the hoplites for the eighth time of Claudius Novius, the overseer and lawgiver, son of Philinos, during the priestess-ship of * * *, daughter of * * *.

It appears, therefore, that the inscription recorded the erection of a statue to Nero, probably in the Parthenon.

As it is known from another inscription that Claudius Novius was general for the eight time in the year A. D. 61, we have the exact date of this inscription.

Mr. Andrews graduated at Cornell in 1895, and holds the university fellowship for one year. There are at present twelve students in the American School.

Manganese Ore in Nova Scotia.—Consul Young, of Windsor, N. S., reports to the Department, May 15, 1896: The Tenny Cape manganese mines, situated at Tenny Cape, Hants County, N. S., about 1 mile from good shipping, produce manganese ore of the best quality, and the quantity seems inexhaustible. The ore is noted for its crystals, and is specially suited for use in the manufacture of glass. The mines have been worked to a limited extent, with but little intermission, for about thirty years. About two years ago a new company was formed, with a large capital, for the purpose of mining and selling the ore. Heretofore, not more than 75 tons was the average output, but with improved appliances a much larger output is expected. The following is an average analysis:

	Per cent.
Dioxide	89
Ferro oxide	0.75
Soluble baryta	0.52
Insoluble baryta	1.72
Moisture	3.75
Organic matter	1.4
Silica	0.75
Undetermined	2.11
Total	100

At one time this ore sold in New York as high as $140 per net ton, and has sold as low as $75 per ton. The quality of the Tenny Cape ore is said to be unsurpassed, and therefore it is sought for by dealers who require manganese of a high grade.

Removal of Interstate Taxes in Mexico.*—Consul-General Crittenden writes from Mexico, May 2, 1896: I have the honor to call your attention to the fact presented in this extract, taken from one of our morning papers:

> All the States and Territories having approved the amendment to the constitution prohibiting any interstate tax on commerce (alcabalas), Congress has passed the bill, the President has signed it, the Diario Oficial has published it, and it will soon be promulgated by "bando," as the Vice-Presidency was the other day. The law takes effect July 1.

This tax has been in existence for many years in Mexico, and has been a source of much embarrassment to internal and external trade. Its repeal meets with general approval, although some of the States will be compelled to seek other modes of taxation to replace the money heretofore obtained by this interstate tax.

Legislation in Honduras.—Consul Little, in a dispatch dated Tegucigalpa, April 16, 1896, says: This year's session of the Congress of Honduras closed on the 9th instant. Among the acts of interest which it passed are the following:

> (1) A concession granted to New York capitalists for the building of an interoceanic railroad from Puerto Cortes to Amapala. Before carrying out their concession, the company have to consolidate the foreign debt and make an arrangement with the holders of the former concession for the same road. If this is done, I shall make a fuller report in regard to the concession.
>
> (2) Confirmation of the treaty of union, celebrated last June, between Honduras, Nicaragua, and Salvador.

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* For description of these taxes, see CONSULAR REPORTS No. 183 (December, 1895), pp. 490–495.

(3) Confirmation of treaty of friendship, etc., celebrated September 28, 1895, between Honduras and Costa Rica.

(4) Ratification of the convention celebrated March 1, 1895, between Honduras and Guatemala, under which a joint commission is to be appointed to determine more definitely the boundaries between the two Republics.

Chilean Competition with California Flour.—From Guayaquil, April 25, 1896, Consul-General Dillard reports: I have the honor to inform the Department that our flour trade from San Francisco to Guayaquil is suffering now very seriously from the Chilean competition. The merchants explain this state of things by saying that since the Pacific Mail Line has now no competition, it has put up the freights so high that purchasers can not afford to order from San Francisco. This will continue until the consumers begin to complain of the bad quality of the bread made of Chilean flour. But it will not do for our exporters to wait for that event, for it is also true that the Chileans are so improving their methods that there is little, except the quality of the wheat, in favor of our product; and if the people here once become reconciled to bread made of Chilean flour, our exports of flour to this market will almost entirely cease. Some years ago, the Chilean flour was largely consumed in this market, but the California flour, by the enterprise mainly of the Stockton Milling Company, I believe, almost entirely drove out the Chilean. It would seem that our exporters ought to hold the ground they have captured, at least. A short while ago, it was rare for a steamer from the South to bring a cargo of flour; now, nearly every Chilean steamer has a good lot of flour to discharge at this port. No Eastern flour comes as far south as Guayaquil, and no California flour reaches the coast between here and Panama. New York supplies the Colombian and Ecuadorian ports north of Guayaquil.

Removal of Duty on Ether of Sulphur.—In a dispatch from the Hague, dated March 26, 1896, Minister Quinby says: I have the honor to state that by royal order appearing in the Official Gazette of the 25th of March last, it is decreed that ether of sulphur destined for the preparation of gold polish required for the adornment of porcelain or earthenware may, under certain restrictions, which are set forth in the order, be imported into the Netherlands free of duty. Subsequent to an application from the person requiring the ether of sulphur, the Minister of Finance is authorized to sanction the importation of such a quantity as he shall deem fit; that the same shall be conveyed under seal to the factory at which it is required, the Government officials superintending the admission thereof to the factory; that a guaranty shall be given for the customs duty thereon, and that in case of an importation exceeding the sanctioned quantity, the duty on the excess shall be withheld from the guaranty given; that the manufacturer shall acquaint the collector of taxes with the quantity of ether of sulphur on hand at the close of the year, which quantity shall be entered in the new year's account as a fresh importation; that no distilling apparatus shall be found in the factory; and, finally, that, on evidence of an abuse of the privilege, the Minister of Finance is authorized to deny the person transgressing any further enjoyment thereof.

New Tariff on Tobacco in Belgium.—Under date of April 22, 1896, Consul Roosevelt, of Brussels, says: On the 31st of March, 1896, a bill was passed by the Belgian Senate and signed by the King April 18, 1896, to go into effect April 20, 1896, increasing the customs duty on tobacco as follows:

Cigars and cigarettes, from 300 francs ($57.90) to 600 francs ($115.80) per 100 kilograms (220.46 pounds); other, including extract of tobacco (praiss), 120 francs ($23.16) per 100 kilograms; stripped tobacco, 75 francs ($14.47) per 100 kilograms; other, including stems and succedaneum of tobacco, 55 francs ($10.61) per 100 kilograms.

Besides the above-mentioned duties, there is an excise tax of 15 francs ($2.89) per 100 kilograms, paid by retail dealers.

Pig Iron Made Free in Sweden.—Minister Ferguson, in a dispatch from Stockholm, April 24, 1896, says: I have the honor to report that the Riksdag has passed an act removing the duty on pig iron, kentledge, and old broken iron. The joint vote of the two chambers was a very close one—186 yeas to 185 nays. The Second Chamber had, voting separately, passed the resolution, but the First Chamber had rejected it. As is the custom when the chambers disagree, the joint vote was taken, with the above result.

This was the only positive victory of the antiprotection party, although in two other contests which were of interest to our commerce they were negatively successful.

The proposition of the First Chamber for the increased duties on leather was defeated and a proposition for the increase of the duty on shoes to 2 kronor (26.8 cents) per kilogram was rejected by a vote of 191 to 176, so the duties on leather and shoes remain the same.

Publications Beneficial to American Trade.—Consul Wamer, of Cologne, reports to the Department under date of April 2, 1896: I am glad to report that the publication by me in the Cologne Gazette of April 3, 1896, regarding the official inspection of live stock and their products by the United States Government has, as I am informed by a large importing house here of American meat products, already had a great effect. One of the partners of this firm says his business has considerably recovered in consequence of this publication. Many of the importers have printed the whole publication in their price lists.

In conversing with the importers here, they expressed the belief that it would be advisable for the United States Government to have a certain sum of money appropriated, to be used in making just such publications whenever false reports have been spread regarding the unwholesomeness of American products. But as this is directly in the interest of the exporting merchants in the United States, it appears to me that they would willingly subscribe funds to be placed in the hands of the Secretary of Agriculture for the purposes mentioned.

Exports of Sulphur from Sicily.—Consul Seymour, of Palermo, reports April 23, 1896: During the nine months ending March 31, 1896, and during the nine months ending March 31, 1895, the exports of Sicilian sulphur amounted to 277,649 tons and 235,633 tons, respectively. During the respective periods, the exports to the United States alone amounted to 114,592 tons and 77,624 tons. During the three months ending March 31, 1896, 41,335 tons were exported to the United States, against 18,940 tons during the corresponding period of the preceding year. The sulphur imported by the United States is used principally in the manufacture of chemical fertilizers.

Falling Off in Fruit Exports from Sicily.—Under date of April 24, 1896, Consul Seymour, of Palermo, reports: In consequence of the withdrawal of many letters of credit that had been given fruit exporters by American importers, and notwithstanding lemons are now bringing very fair prices in New York, exports have fallen off very perceptibly. The lemon crop is a large one, but recent rains, wind, and hail have destroyed much fruit and injured the keeping quality of much more. Good lemons, in the field, sell for from $1.50 to $2 per 1,080. Very few oranges remain.

Method of Pruning Fruit Trees in Italy.—Consul Seymour writes from Palermo, April 18, 1896: The disadvantages arising from the failure of fruit trees to produce in successive years a uniform quantity of fruit are well known to all engaged in fruit culture, and information regarding any system of cultivation that has for its object the equalization of successive crops, especially when it is said that such system has been successful, must be of interest to them. According to the Agrarian Review, with the view of equalizing the crops in the Sorrentine peninsula, it has been shown that good results are obtained from the following method of pruning: Prune considerably after the scarce year, cutting some fruit-bearing branches, and little after the full year. This system, though the opposite of the old, seems to be, in theory, the proper one; for it is due to the fact that during the loaded year the tree is deprived of nourishment that might be used by it the next year in the formation of fruit, and by depriving the tree of the branches, which is only depriving it of fruit, there will be less nourishment required by the fruit in the following year, and the tree will have more for the formation of fruit.

Railroad Concession to Americans in Korea.—Consul-General Sill, in a dispatch from Seoul, April 16, 1896, says: A concession to build, operate, and maintain a railroad between this capital and its port—Chemulpo—has been granted to James R. Morse for an American syndicate. Chemulpo is distant about 26 miles by cart road from Seoul, and is the most important port in Korea. Seoul has a population of upwards of, perhaps, 350,000, inclusive of the extensive river suburbs, 3 miles distant. A bridge will be built across the river. At present, the communication is by clumsy carts, pack animals, and chairs, overland, at most exorbitant rates. Junks and small steamers ply on the river. The river route is 56 miles in length, and offers great obstacles to successful navigation, so much so that the steamers scarcely count in the matter of transportation, while all navigation is closed by ice for three or four months in the busiest season and by floods for a month in the summer. The intermediate country is rolling, but it is thought that a suitable grade may be found for a line of, perhaps, 40 miles in length.

Windmills in Nicaragua.—In a dispatch from Managua, dated April 20, 1896, Minister Baker says: During the dry season in Nicaragua, which lasts on this (the Pacific) side of the country from November to May, the season of coffee picking and cleaning, the winds blow almost every day with more or less force. Notwithstanding the scarcity of fuel, there being no coal, no one had the enterprise to harness the wind and turn its energy to the uses of man until the past year. A young American first tried to induce planters and others to erect windmills for pumping water, which, during this half of the year, is a scarce and precious article, and I believe one or two were contracted for, when Mr. H. E. Low, an European citizen and acting American vice-consul here, conceived the idea of making the experiment of using wind power in running his coffee-cleaning machinery. He ordered from Chicago a windmill, erected it on his farm in the mountains, attached his hulling and other machinery to it, and put it in motion. Both Mr. Low and his coffee-raising neighbors are delighted with the performance. He cleaned his coffee, he informs me, in as satisfactory a manner as he could have done with steam. Many planters come to his farm to observe for themselves, and a number of orders for American windmills will probably result.

British Imports of Eggs.—Consul MacBride forwards to the Department an extract from the Edinburgh Evening Dispatch of May 6, 1896, which says:

Mr. James V. R. Swann, of 85 Percy Road, Shepherd Bush, London, W., has issued a circular on the foreign egg trade with Great Britain, in which he says: During 1895 the

United Kingdom imported from twenty foreign countries and British possessions 1,526,000,000 eggs (80,551 tons), valued at £4,003,440, or an import exceeding 4,000,000 eggs (209 tons), valued at £10,941 daily. Forty per cent of the eggs consumed in the United Kingdom come from abroad, and fully 90 per cent of the eggs handled in the towns of England and Germany are of foreign origin. During 1894 the consumption of imported eggs per head of population in the German Empire was 30, and in the United Kingdom 37, and this consumption of imported eggs per head of population in the United Kingdom has risen from 4 in 1853 to 39 in 1895. From official quotations published in the Grocer, it may be learned that imported eggs are from 35 to 60 per cent cheaper in summer than in winter, depreciate in quality from 25 to 45 per cent in transit, and lose on an average from 17 to 50 per cent in value before they can be marketed.

Interest in United States Consular Reports in Saxony.—Consul Monaghan writes from Chemnitz, Saxony, May 9, 1896: I have the pleasure of informing the Department that the United States CONSULAR REPORTS, issued monthly, are much sought after in Saxony, and that copies coming to the chambers of commerce of the Kingdom are placed at the disposal of the public for six or eight days. The public are made aware of their arrival by announcement in the press. I understand they are eagerly read by those interested in matters of commerce and manufacture.

Egyptian Cotton Forecast for 1896-97.—Under date of May 13, 1896, Consul-General Penfield writes from Cairo: Inspired by the high prices realized by the cotton crop of 1895–96, Egyptian planters have this spring increased the area to the maximum limit permitted by the country's irrigation facilities. Exact figures are not procurable, but it is estimated that the increase of acreage is from 5 to 8 per cent, and that this season's area approximates 1,150,000 acres. The greatest percentage of increase is in the provinces south of Cairo. Conservative forecasters believe the crop will yield 750,000 bales of 750 pounds each, being the equivalent of 1,125,000 American bales, and the largest ever raised in the Nile Valley. Predicated on the yearly increase of shipments to America, it is probable that the United States will buy 65,000 bales (equal to about 100,000 bales of American weight) of the next Egyptian crop.

Egyptian Sugar for the United States.—Under date of May 14, 1896, Consul-General Penfield writes from Cairo: As a result of the Cuban war, an active demand has been created in the United States for Egyptian unrefined sugar, and since the beginning of 1896 there have been thirteen cargoes dispatched from Alexandria direct to America. The opinion obtains that the demand for Egyptian sugar must continue for several months. The shipments to date aggregate 39,000 tons, valued at $2,400,000, exclusive of freight costs, which are $2.50 per ton. British steamers carry the sugar to the United States and bring no return cargo to Egypt.

Exemption from Duties on Corn in Mexico.—Minister Ransom informs the Department of State, under date of May 25, 1896, that the President of Mexico has issued three decrees making special exemptions and a reduction of the duties on corn imported into certain States of Mexico. These decrees are:

(1) The board of beneficencia (charity) of the State of Tamaulipas, established under the auspices of the local government, is exempted from the payment of import duties on 20,000 fanegas (1 fanega=1.54728 bushels) of corn, which may be introduced through Tampico, Laredo, or Porfirio Diaz, and shall be sold at cost price in the towns of the State.

(2) The board of beneficencia of the State of San Luis Potosi is granted exemption from import duties on 8,000 tons of corn, which shall be sold at cost price in the towns of the State.

(3) A reduction of 50 per cent on import duties is granted on foreign corn, which may be introduced into the States of Campeachy and Yucatan for consumption of the population, this privilege to continue in effect until December 31, 1896.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of May to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Schneegans, Saigon	Mar. 21, 1896	Rice	Department of Agriculture.
Do	Apr. 4, 1896	do	Do.
J. C. Monaghan, Chemnitz	Mar. 18, 1896	Apples in Germany	Do.
George Keenan, Bremen	Apr. 14, 1896	American horses in Germany	Do.
Max Judd, Vienna	Mar. 20, 1896	Currency of Austria-Hungary.	Treasury Department.
T. E. Heenan, Odessa	May 16, 1896	Hydrophobia in Russia	Marine Hospital Service.

FOREIGN REPORTS AND PUBLICATIONS.

Agricultural Bounties in British Colonies.—In answer to an application from the royal commission on agricultural depression, the Colonial Office in London has received and published reports from various British colonies relative to bounties, other than those on shipping and navigation, granted by the governments of the various colonies on the export of agricultural produce. From this publication (Bounties, other than those on shipping, etc.), the following information is extracted:

Cape Colony.—The government allows a rebate of 5s. 6d. of the customs duty of 6s. 3d. per 100 pounds weight on sugar used in the manufacture of jams and preserves, in order to enable the manufacturers of these articles to compete in South African markets with the imported article produced from duty-free sugar; and a rebate of 15 per cent is granted by the railway department off second-class rates on sugar used in the manufacture of jams and preserves carried inland from ports. Sheep-dipping materials are conveyed by rail free of charge; rates charged on colonial produce are reduced, as compared with the rates on imported articles, and high duties are levied on imported wheat and flour.

Malta.—No bounties are paid on the export of agricultural produce, but there is an import duty on wheat of 10s. ($2.43,3) per quarter (560 pounds), and on flour and manufactured breadstuffs of 6s. ($1.46) per cantor (175 pounds). Duty is refunded on flour and manufactured breadstuffs exported at the rate of about 1 imperial quarter of wheat to every 210 rotoli (1 rotoli= 367½ pounds) of flour and breadstuffs.

Mauritius.—There are no special laws giving bounties for the furtherance of the trade of the colony, but certain provisions of the import tariff have the same effect as bounties, as they place certain products of the colony and its dependencies on a more favorable footing in regard to local consumption than similar articles received from foreign countries. These articles are live animals of all kinds, cocoanuts, beans, oils, salted beef and pork, charcoal, honey, beeswax, lard, manures, pickles and sauces, straw goods, brooms and brushes, sugar, etc. An export duty is levied upon sugar.

Natal.—No bounties are accorded in the colony of Natal on the exports of agricultural products, but there is a law for the encouragement, by rewards, of the industry of the colony. Such rewards are in the way of money payments from the general revenue to bona fide makers of such commercial products from raw materials as are commonly termed manufactures, etc.

Table of rewards.

Class.	Nature of product or manufacture to be made in Natal from colonial produce or material.	Quantity to be produced in each class to earn the reward, to be equivalent to the amount of—	Maximum period allowed for production, to date from notification of intention to compete.	Maximum amount of rewards.*	
				First reward.	Second reward.
1	Leather manufactured from South African hides and suitable for boots, shoes, saddlery, etc	$24,300	*Years.* 1	$8,272	$3,893
2	Boots and shoes	9,730	1	3.406	1,460
3	Saddlery and harness	9,730	1½	3.406	1,460
	Woolen manufactures:				
4	Blankets and rugs, from South African wool	39,928	1½	13,381	6,082
5	Tweeds, serges, or flannels, from South African wool	24,300	2	8,272	3,893
6	Yarns and hosiery, from South African wool	4,866	1	1,460	730
7	Iron or steel in bar, pig, or steel rails	97,320	1	34,062	14,598
8	Cement, equal to portland	24,300	1	4,866	2,433
9	Ropes, cordage, or twine	4,866	1	1,703	730
10	Paper (wrapping, printing, or writing)	24,330	1	8,272	2,433
11	Railway sleepers, creosoted or treated by other approved process	24,330	1	4,866	2,433
12	Manure superphosphate	4,866	1	1,703	730
13	Milk, condensed, tinned	2,433	1	730	487
	Oils:				
14	Cotton-seed or castor	4,866	1	1,703	730
15	Ground nut	4,866	1	1,703	730
16	Sesamum or gingelly	4,866	1	1,703	730
17	Eucalyptus	4,866	1	1,703	730
18	Candles, stearin	7,279	1	2,443	1,216
19	Perfume oils	14,598	1	4,866	2,433
20	Glass manufacture	7,279	1	2,443	1,216

*In no case shall a first reward exceed one-quarter of the capital invested in the site, buildings, and plant. The second reward shall not exceed one eighth of the same.

Victoria.—Bounties to the amount of £233,000 ($1,133,778) are granted by Parliament to promote the agricultural, dairy, fruit and wine industries (embracing vine and fruit cultivation), planting certain vegetables, fiber plants, paper plants, oil plants, sugar plants, tannin plants, drug plants, dye plants, scent plants, insecticide plants; £37,000 ($180,042) for fruit canning, fruit drying, dairying, raisin and currant making, vegetable oil making, preparing flax, hemp, silk, etc., for the manufacturer; £50 ($244) for the manufacture of 2,000 pounds of tobacco; £2,000 ($9,732) for the importation of new seeds and plants; £43,000 ($209,238) for establishing a system of technical education (agriculture); £4,000 ($19,464) for the introduction of new machinery and appliances to perfect the treatment of new agricultural products; £11,000 ($53,526) for expert agricultural reports; £1,000 ($4,866) for planting and cultivating certain forest trees; £10,000 ($48,660) for bonuses for export of dairy produce, fruits, and honey.

Queensland.—A bonus of 4 cents per pound for butter exported and of 2 cents per pound for cheese exported is paid in Queensland. Bonuses are also paid by means of loans to companies for the preservation of meats, the establishment of freezing works, and for the erection of butter and cheese factories. Encouragement and assistance are also given for the erection of sugar mills.

South Australia.—A bonus of 4 cents per pound on butter exported was paid from October, 1893, to February, 1895.

Canada.—A bounty is paid to the growers of beet-root sugar of 75 cents per 100 pounds for each degree or fraction of a degree over 70° shown by the polariscope test, such bounty in no case, however, to exceed in the aggregate $1 per 100 pounds. The sums thus far paid under this bounty were $23,767, $20,568, $7,766, and $29,449 for the fiscal years 1892, 1893, 1894, and 1895, respectively.

The foregoing are the only colonies for which published statistics have been received at the Department.

British Trade Returns.—The accounts of trade and navigation of the United Kingdom for the month of April and for the four months ending April 30, 1895 and 1896, make the following showing of imports and exports:

Imports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of April.				
Animals, living, for food	$2,918,520	$4,341,217	$1,422,697	....
Articles of food and drink:				
Duty free	55,403,099	50,494,618	....	$4,908,481
Dutiable	9,107,361	9,178,455	71,094	....
Tobacco	1,127,292	1,364,207	236,913	....
Metals	6,578,379	8,190,952	1,612,873	....
Chemicals, dyes, and tannics	2,783,065	2,571,832	....	211,233
Oils	3,233,460	3,059,278	....	174,182
Raw materials for textiles	34,513,435	38,499,012	3,985,577	....
Raw materials for other industries	14,623,624	16,174,827	1,551,203	....
Manufactured articles	30,305,550	33,724,300	3,418,750	....
Miscellaneous goods	6,039,328	6,285,315	245,987	....
Parcel post	472,055	361,549	....	110,506
Total	167,105,168	174,245,562	7,140,394	....
Four months ending April 30.				
Animals, living, for food	10,648,180	16,815,748	6,167,568	....
Articles of food and drink:				
Duty free	207,462,921	225,894,138	18,431,217	....
Dutiable	38,061,364	37,549,890	....	511,474
Tobacco	4,241,210	6,075,564	1,834,3 4	....
Metals	27,418,411	32,191,417	4,773,006	....
Chemicals, dyes, and tannics	13,033,308	15,650,117	2,616,809	....
Oils	11,998,091	13,676,117	1,678,026	....
Raw materials for textiles	153,371,654	152,427,863	....	943,791
Raw materials for other industries	52,090,666	61,265,300	9,174,634	....
Manufactured articles	115,792,961	133,418,837	17,625,876	....
Miscellaneous goods	21,659,942	23,855,244	2,195,302	....
Parcel post	1,814,565	1,854,520	39,955	....
Total	657,593,273	720,674,755	63,081,482	....

Exports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of April.				
Animals, living	$236,945	$365,875	$128,920	....
Articles of food and drink	3,741,618	3,841,387	99,769	....
Raw materials	6,829,018	6,645,767	....	$183,251
Manufactured and partly manufactured articles:				
Textiles and yarns	36,191,520	38,110,030	1,918,510	....
Metals and metal goods	10,861,316	13,218,659	2,357,343	....
Machinery and millwork	6,191,931	6,666,566	474,635	....
Apparel and personal effects	2,980,498	3,491,637	511,139	....
Chemicals, chemical products, and medicinal preparations	3,287,265	3,480,436	193,171	....
All other	13,153,718	13,252,833	99,115	....
Total manufactures	72,666,248	78,220,161	5,553,119	....
Parcel post	475,936	591,127	115,191	....
Total British exports	83,949,765	89,664,317	5,897,803	....
Foreign products	32,155,588	26,332,797	....	5,822,791
Grand total exports	116,105,353	115,997,114	....	108,239
Four months ending April 30.				
Animals, living	810,403	1,146,361	335,958	....
Articles of food and drink	14,177,720	15,567,142	1,389,422	....
Raw materials	25,408,354	26,480,164	1,071,810	....
Manufactured and partly manufactured articles:				
Textiles and yarns	161,763,411	178,651,834	16,888,423	....
Metals and metal goods	40,421,340	51,335,312	10,913,972	....
Machinery and millwork	21,782,897	25,592,673	3,809,776	....
Apparel and personal effects	14,027,452	17,348,550	3,321,098	....
Chemicals, chemical products, and medicinal preparations	13,094,260	14,900,142	1,805,882	....
All other	47,186,079	54,188,230	7,002,151	....
Total manufactures	298,275,439	342,016,741	43,741,302	....
Parcel post	1,815,106	2,413,896	598,790	....
Total British exports	340,487,022	387,624,304	47,137,282	....
Foreign products	96,103,383	99,747,417	3,644,034	....
Grand total exports	436,590,405	487,371,721	50,781,316	....

Résumé for the four months.

Description.	1895.	1896.	Increase.	Decrease.
Imports	$657,593,273	$720,674,755	$63,081,482	....
Exports	436,590,405	487,371,721	50,781,316	....
Excess of imports	221,002,868	233,303,034	....	....

East Indian Trade in 1894-95.*—The statement of the trade of British India for 1894–95 has just been presented to Parliament. To it is prefixed the usual elaborate review, dated Simla, October 1, 1895, by Mr. J. E. O'Conor, director-general of statistics to the government of India. Mr. O'Conor carefully analyzes the figures relating to the various branches of trade. As regards exports of Indian merchandise, Mr. O'Conor says:

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*From the London and China Telegraph, April 14, 1896.

> The year 1893–94 was again exceptional. The closure of the mints on June 26, 1893, disorganized the exchange between the rupee and the dollar, and in consequence dislocated the trade between India and the silver-standard countries of eastern Asia. In opium and in cotton yarns and cloth, there was a heavy decline, which was hardly counteracted by the increase in most of the other great staples of trade. The net outcome was that the trade of the year was only fractionally larger than in 1892–93. In 1894–95, there was a general and very satisfactory revival of trade in most of the important articles of trade; but this recovery was counteracted by a heavy decline in cotton and oilseeds, and such is the prominence of these two classes of goods in the Indian export trade that the aggregate result of the year's trade was but 1.7 per cent in excess of that of 1893–94.
>
> As regards cotton, the review says: The quantity of Indian cotton taken by the United Kingdom grows smaller and smaller from year to year. Indian cotton finds its largest market on the European continent, where it is used for the spinning of the stout yarns employed in weaving the clothing of the artisan and the peasant, and in Japan, where it is being spun in the mills there in substitution for the Indian-spun yarn with which, until recently, we supplied Japan. China has also ceased to take Indian cotton in any quantity, the local spinning of yarn by the people in their homes having given place to the importation of yarn spun in the Bombay mills.

We may pass on to the following suggestive remarks on the trade relations of India with Japan and China:

> As the exports of cotton yarns have fallen, the exports of raw cotton to feed the Japanese mills have increased. We have lost a trade of something under a million Rx., but a larger trade has been created in the same period. Some seem to think that what has happened in Japan will also happen in China. Perhaps it will, but the change will be spread over a vastly longer period, for the countries, their inhabitants, and their conditions are very dissimilar. If the Japanese have effected their political and economical revolution with feverish haste, the Chinese will set about a similar task with cold and cautious deliberation. When the revolution is effected, it is certain that the result for the trade of India will be what we see in our intercourse with Japan; the trade will increase much more rapidly and satisfactorily than it can ever do in present conditions. The greater the prosperity of India's neighbors, the better for India and the trade of India.

Australian Colony in Paraguay.—The London Times of April 14, 1896, publishes a statement concerning the colony of six hundred Australian laborers and farm hands, who, under the leadership of William Lane, undertook to establish a community based on socialistic ideas in Paraguay. The statement is based upon a report by Mr. Alfred Rogers, who was sent by the British board of the New Australian Association to investigate the affairs of the colony.

The original concession granted the colony by the Government of Paraguay was 310,000 acres, rent free and free of all taxes and import and export duties for ten years from the date of the contract, on condition that, at the end of six years, the colony had increased to 1,200 families consisting of 4,000 to 6,000 persons.

Many of the original colonists were unable to stand the hardships of pioneer life, and returned to Australia. Many were not amenable to the rules for the government of the colony, and some 50, headed by William Lane, severing their connection with the rest, formed an independent colony.

The original colonists do not now number more than 200, and can not fulfill their part of the contract, but the Government is willing to release them and to grant them instead the Lowry estate, on which their five present settlements are located. This estate comprises about 130,000 acres, capable of supporting upwards of 50,000 head of cattle and would easily bear a population of 5,000 people. It is composed of prairie and forest, with some stretches of swamp land. The prairie is well adapted for cattle raising and the cleared land is very fertile, yielding 50 bushels of maize to the acre. The timber is exceedingly valuable and bamboo cane is plentiful. Wild fruits abound and include oranges, guavas, peaches, and figs; bananas have been planted. The colonists use the native tea—yerba mate.

The stock now comprises 480 head of cattle, 180 horses, 275 pigs, and 1,500 fowls.

The principal crops are maize, mandioca, sweet potatoes, sugar cane, and ramie fiber. The manufacturing industries are represented by a corn mill, grist mill, sawmill, wooden cane mill, three tan pits, and a ramie machine.

English vegetables grow well and find a good outside market in Asuncion, where early English potatoes have been selling for £13 per ton. Several acres of tobacco are cultivated, and 4,000 coffee trees have been planted.

The constitution provides that the community shall undertake all production, distribution, and exchange, shall provide all machinery and capital, shall be responsible for the keep and education of children, and that the remainder of the wealth produced in common shall be divided among all adult members of the community without regard to sex, age, office, mental or physical capacity.

The whole of the produce passes through the central offices and store, and the claims of the members are met by labor checks or credit notes, which now stand at $4.20 a week, with additional clothing checks (only available for that purpose) at $2 a week. These checks are available for any article kept in the store, the prices being fixed by a committee, and also for any goods that the store can obtain from Asuncion.

The women stand on exactly the same footing as the men, and are mainly employed in laundry and dairy work. Each family occupies a separate cottage, and the marriage institution is rigorously maintained.

The colony offers splendid natural opportunities. There is and has been no physical obstacle to mar the success of the experiment. The food supply is ample, and there is raw material on the spot for a dozen industries, while, in order that the colonists may be provided with all the necessaries of life, it is only requisite that each adult member should annually produce goods to the value of £7 in the outside market, all else being provided by the community itself.

William Lane, it is stated, failed to secure harmony or confidence from the start, and his successors do not seem to have fared much better. The board of management has exercised a very ineffective control. Though the accounts have been well kept and reveal nothing irregular, the money of the community, it would appear, has been extravagantly spent and the people have been living on capital instead of earning income, the timber and cattle have been squandered, and many of the association tools have been either destroyed through carelessness or deliberately taken away.

However, the writer in the Times concludes, there seems to be a hope for brighter times for New Australia. Nearly all the discontented and incapable members have gone, and the new chairman, Gilbert Casey, is said to be a worker and won golden opinions from all whom he met on his visit to England two years ago.

Growth of Manufactures in Japan.*—The pamphlet containing the proceedings of the Osaka and Hiogo General Chamber of Commerce for the year 1895, which has just reached us, includes also a succinct report upon the trade of Kobé deserving attention. Upon the conclusion of peace, business [in Japan] appears to have quickly returned to its normal condition, fully justifying the anticipation that, with a peaceful and reasonable foreign policy, the country has a period of commercial prosperity before it. The imports of Kobé showed an increase of more than $6,000,000, or nearly 11 per cent, as compared with 1894, while the figures of the exports were again largely in excess of those for the preceding period, showing that trade had increased in value to the extent of upwards of $9,000,000 during the twelve months. In imports, the principal items of increase were raw cotton, shirtings, mousselines, woolen cloths, blankets, bar iron, lead, zinc sheets, chemicals, dyes, leather and hides, clocks, paper, jute and flax yarn, gunny bags, and oil cake. The articles showing a falling off include cotton yarn, velvets, cotton Italians, satins, woolen Italians, pig iron, kerosene oil, chlorate of potash, raw sugar, rice, beans, and machinery generally. The activity of the native mills is responsible for the falling off in the cotton-yarn imports, while the establishment of chemical works at Osaka and other places promises to seriously interfere with the sale of such imports. As an evidence of the expansion of the spinning and weaving industries, it may be stated that the imports of raw cotton showed an increase of 30 per cent upon the previous year's figures, the China staple taking the first place as regarded quantity, followed closely by Indian. Concerning the exports, the improvement embraces nearly every article, but is most striking in the case of carpets, cotton piece goods, tea, matches, matting, rice, and straw braid. As far as can be ascertained from the returns compiled by the Cotton Spinners' Union, the number of cotton mills actually at work in Japan on the 31st of December was fifty-eight, with a normal capacity of 632,130 spindles, against forty-nine, of 523,696 spindles, at the corresponding period of the previous year. Projected new factories and the extension of existing works show a proposed increase of six mills and 352,427 spindles during the next few months. The average rate of wages for men ranges between 12.5 and 25⅜ cents, and for women and children, between 5.9 and 15.6 cents per diem for a twelve hours' shift. Also, that the mills run from twenty-two to twenty-four hours daily, and that some of them close only for one or two days during the month. The industry appears to be highly profitable, some of the mills having paid a dividend of 20 per cent upon capital.

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* From the North China Herald, April 2, 1896.

VI. 990

Vol. LI. No. 190.

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CONSULAR REPORTS.

JULY, 1896.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1896.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (*1890*).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (*1891*).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (*1891*).—Streets and Highways in Foreign Countries.

Vol. 4 (*1892*).—Port Regulations in Foreign Countries.

Vol. 5 (*1892*).—Canals and Irrigation in Foreign Countries.

Vol. 6 (*1892*).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (*1892*).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (*1893*).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (*1892 and 1893*).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (*1894*).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (*1894*).—American Lumber in Foreign Markets.

Vol. 12 (*1895*).—Highways of Commerce.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

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CONTENTS.

Page.

I.—Explanatory Note xv

II.—Production of Sugar in the Argentine Republic ...... *Buchanan* 369

III.—Depression in Sugar Industry of Guadeloupe. } *de La Roncière* 371

IV.—Coffee Crop of Guadeloupe .... } *de La Roncière* 372

V.—Colombia: Region of the Magdalena; Trade of Barranquilla .... } *Bidlake* 372

VI.—Trade of Barranquilla in 1895 .... } *Bidlake* 380

VII.—Peru and the Peruvian Corporation .... *Jastremski* 381

VIII.—Brazil: Minerals, Mining, etc., of the State of Bahia .. *McDaniel* 384

IX.—Mexico: Amendment to the Constitution; Financial Changes, Industrial Conditions, etc 387

(Substitute, or Ad Interim, President, 387—Abolition of Interstate Tariffs of Mexico, 390—Supplementary Decrees, 390—Conversion of the Mexican National Debt, 393—New Banking Law of Mexico, 395—Manufacture of Pulque in Mexico, 396—Orange Crop of Mexico, 404—Oranges and Lemons in Sonora, 405—Language as a Factor of Mexican Trade, 406—Perfilado, or Drawn Needlework, in Mexico, 408—Mormon Colonists in Mexico, 409—Beet Sugar in Mexico, 410.)

X.—Resources and Industrial Conditions in Nicaragua ... } *O'Hara* 410

XI.—Market for United States Goods in Nicaragua .... } *O'Hara* 423

XII.—Cost of Goods Delivered in Nicaragua .... } *O'Hara* 451

XIII.—Port of San Juan and the San Juan River .... } *O'Hara* 461

XIV.—The Port of Bluefields .... } *O'Hara* 464

XV.—Steamboat Service in Nicaragua .... } *O'Hara* 465

XVI.—Market for Machinery and Bicycles in Nicaragua .. } *O'Hara* 467

XVII.—United States Interests in Nicaragua .... *Baker* 469

XVIII.—United States Trade Methods in South America .... *O'Hara* 471

XIX.—Trade Between the United States and Honduras .... *Little* 474

XX.—Military Service of Foreigners in Chile .... *Strobel* 477

XXI.—Sugar Production in the British Colonies .... *Bartleman* 478

XXII.—Flour Trade of Santiago de Cuba .... *Hyatt* 479

XXIII.—Port Charges at St. George's, Bermuda .... *Willett* 481

XXIV.—Exhibition of United States Goods in Venezuela .. } *Plumacher* 482

XXV.—New Steamship and Railway Lines in Venezuela .. } *Plumacher* 484

XXVI.—United States Lumber Trade With Uruguay .... *Schramm* 486

XXVII.—Italian Sulphur Trust .... *Brühl* 489

			Page.
XXVIII.	—A New Butter-Making Machine	O'Neil	492
XXIX.	—Milking Maching, or Lactator, in Sweden		496
XXX.	—Grain Crop of European Russia	Karel	498
XXXI.	—Artificial Silk in France	du Bellet	499
XXXII.	—Artificial Silk in England	Dickinson	500
XXXIII.	—Germany's Textile Industries	Monaghan	502
XXXIV.	—Germany's Woolen Industries		505
XXXV.	—American Shoes for Germany	Mason	508
XXXVI.	—The New Sugar Export Bounties in Germany	Mason Muth	510 512
XXXVII.	—Samples Exhibition of Stuttgart	Johnson	515
XXXVIII.	—United States Trade with Switzerland	Richman	516
XXXIX.	—American Horses in Ireland	Brice	522
XL.	—Prices of Agricultural Produce in Ireland	Ashby	523
XLI.	—American Machinery in Ireland		524
XLII.	—French vs. United States Trade in West Africa	Strickland	525
XLIII.	—New Tariff of British Central Africa	Hollis	527
XLIV.	—Japanese Laws in Formosa	Herod	528
XLV.	—The Sugar Industry of Formosa	McIvor	530
XLVI.	—Cotton-Spinning Industry in Japan		537
XLVII.	—Railway Supplies for China	Read	541
XLVIII.	—Suez Canal Traffic		543
XLIX.	—Crop Prospects in Spain	Burke	549
L.	—Strike of Coal Miners in New South Wales	Keightley	549
LI.	—Horseless Carriages in Europe	Moore	552
LII.	—American Trade via the Manchester Ship Canal	Grinnell	563
LIII.	—Manchester Canal Traffic in 1895		566
LIV.	—Decrease of Bradford Exports to the United States	Meeker	566
LV.	—Increased Trade Between United States and Peru	Jastremski	569
LVI.	—Purification of Water by Metallic Iron	Chancellor	571
LVII.	—Cider Making in France		576
LVIII.	—Bicycles in France	Griffin	583
LIX.	—Guatemalan Boundary—Archæological Explorations	Sepulvida	585
LX.	—Tehuantepec Railway Lease	Crittenden	585
LXI.	—Notes (A New Dynamometer—The Electric Plow in Germany—Foreigners in German Technical Schools—Canned Horse Meat with American Labels—Foreign Trade of Italy in 1895—Revised Telephone Tariff of Switzerland—Mineral and Metal Trade of Spain—New Railways in Spain—Excessive Manuring in Spain—Imports of Butter into British Guiana—Gold-Mining Returns of British Guiana—International Exposition of Guatemala—American Trade with New Caledonia—Consular Reports Transmitted to Other Departments)		587

Page.

LXII.—Foreign Reports and Publications (Emigration of Discharged German Convicts—British Trade Returns—Insurance Against Want of Employment—Destitution in Germany and in Great Britain—Mercantile Loans for Chinese Industries—British Trade Route to China—Openings for Trade in Dutch Guiana—Woolen Mills in India)........ 594

REPORTS BY COUNTRIES.

Page.

AFRICA, BRITISH CENTRAL:
- New tariff of 527

AFRICA, WEST:
- French vs. United States trade in 525

ARGENTINE REPUBLIC:
- Production of sugar in 369

BERMUDA:
- Port charges at St. George's 481

BRAZIL:
- Minerals, mining, etc., of the State of Bahia 384

BRITISH COLONIES:
- Sugar production in 478

BRITISH GUIANA:
- Gold-mining returns of 592
- Imports of butter into 591

CHILE:
- Military service of foreigners in 477

CHINA:
- Railway supplies for 541

COLOMBIA:
- Region of the Magdalena 372
- Trade of Barranquilla 372
- Trade of Barranquilla in 1895 380

CUBA:
- Flour trade of Santiago de Cuba 479

EGYPT:
- Suez Canal traffic 543

ENGLAND:
- American trade via the Manchester Ship Canal 563
- Artificial silk in 500
- Decrease of Bradford exports to the United States 566
- Manchester canal traffic in 1895 566

EUROPE:
- Horseless carriages in 552

FORMOSA:
- Japanese laws in 528
- Sugar industry of 530

FRANCE:
- Artificial silk in 499
- Bicycles in 583
- Cider making in 576
- Purification of water by metallic iron 571

GERMANY:
- A new dynamometer in 587
- American shoes for 508
- Foreigners in German technical schools 588
- Samples exhibition of Stuttgart 515

GERMANY—Continued. Page.

Textile industries of 502
The electric plow in 588
The new sugar export bounties in 510
Woolen industries of 505

GUADELOUPE:

Coffee crop of 372
Depression in sugar industry of 372

GUATEMALA:

Boundary of 585
International exposition of 592

HONDURAS:

Trade with the United States 474

IRELAND:

American horses in 522
American machinery in 524
Prices of agricultural produce in 523

ITALY:

Foreign trade of, in 1895 589
Sulphur trust in 489

JAPAN:

Cotton-spinning industry in 537

MEXICO:

Abolition of interstate tariffs of 390
Amendment to the constitution of 387
Archæological explorations in 585
Beet sugar in 410
Conversion of the national debt of 393
Language as a factor of Mexican trade 406
Manufacture of pulque in 396
Mormon colonists in 409
New banking law of 395
Orange crop of 404
Oranges and lemons in Sonora 405
Perfilado, or drawn needlework, in 408
Substitute, or ad interim, President 387
Tehuantepec railway lease 585

NETHERLANDS:

Canned horse meat with American labels in Europe 588

NEW CALEDONIA:

American trade with 592

NEW SOUTH WALES:

Strike of coal miners in 549

NICARAGUA:

Cost of goods delivered in 451
Market for machinery and bicycles in 467
Market for United States goods in 423
Opportunities for United States trade in 410
Port of Bluefields 464
Port of San Juan 461
Resources and industrial conditions in 410
San Juan River 461
Steamboat service in 465
United States interests in 469

Page.

PERU:
- Increased trade with the United States.... 569
- Peruvian corporation.... 381

RUSSIA:
- Grain crop of.... 498

SOUTH AMERICA:
- United States trade methods in.... 471

SPAIN:
- Crop prospects in.... 549
- Excessive manuring in.... 591
- Mineral and metal trade of.... 590
- New railways in.... 591

SWEDEN:
- Milking machine, or lactator, in.... 496
- New butter-making machine in.... 492

SWITZERLAND:
- Revised telephone tariff of.... 589
- United States trade with.... 516

URUGUAY:
- United States lumber trade with.... 486

VENEZUELA:
- Exhibition of United States goods in.... 482
- New steamship and railway lines in.... 484

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*....	Gold and silver...	Peso..................	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.......	Gold..................	Crown................	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium....................	Gold and silver...	Franc.................	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil........................	Gold..................	Milreis...............	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	..... do................	Dollar................	1.00	
Chile‡........................	Gold and silver....	Peso..................	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba.........................	......do..................	......do..................	.92.6	Gold—doubloon ($5.01,7); silver—peso
Denmark....................	Gold..................	Crown................	.26,8	Gold—10 and 20 crowns.
Egypt........................	......do..................	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland......................	......do..................	Mark..................	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France.......................	Gold and silver....	Franc.................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany....................	Gold..................	Mark..................	.23,8	Gold—5, 10, and 20 marks.
Great Britain.............	......do..................	Pound sterling.....	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.......................	Gold and silver....	Drachma............	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti..........................	......do..................	Gourde...............	.96,5	Silver—gourde.
Italy..........................	......do..................	Lira...................	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia......................	Gold..................	Dollar................	1.00	
Netherlands§.............	Gold and silver....	Florin................	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland............	Gold..................	Dollar................	1.01,4	Gold—$2 ($2.02,7).
Portugal....................	Gold..................	Milreis...............	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.........................	Gold and silver....	Peseta...............	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold..................	Crown................	.26,8	Gold—10 and 20 crowns.
Switzerland...............	Gold and silver....	Franc.................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.......................	Gold..................	Piaster...............	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela..................	Gold and silver....	Bolivar...............	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	.....	.....
China	Silver	Haikwan tael	1.61	1.61	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	.....	.....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	.....	.....
	Silver		.....	.....	.....	.....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands ‡	Gold and silver	Florin	.40,5	.38,5	.38.5	.40,2	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34.5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	.....	.....	.....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	.....	.....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.45,7	$0.46,4
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
China*	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tien-Tsin tael.	....	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador	do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	....	....	....	....
Russia‡	Silver ruble	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela §	Silver bolivar	....	....	....	....	.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1,	April 1.	July 1.
Bolivia	Silver boliviano	$0.45,5	$0.44,1	$0.48,6	.48,6	$0.49,1	$0.49,3	$0.49,7
Central America	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
China*	Shanghai tael	.67.3	.65,2	.71,8	.71,8	.72,5	.72,9	.73,5
	Haikwan tael	.74,9	.75,6	.80	.80,0	.80,8	.81,2	.81,9
	Tien-Tsin tael.	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3	.78
	Chefoo tael	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3	.76,9
Colombia	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
Ecuador	do	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
India	Silver rupee	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4	.23,6
Japan†	Silver yen	.49,1	.47,6	.52,4	.52.4	.52,9	.53,2	.53,2
Mexico	Silver dollar	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6	.54
Persia	Silver kran	....	....	.08,9	.09,0	.09	.09,1	.09,2
Peru	Silver sol	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
Russia‡	Silver ruble	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5	.39,8
Tripoli	Silver mahbub	.41,1	3.9,8	.43,8	.43,8	.44,3	.44,5	.44,9

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4 422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096 5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110 24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4 2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3 888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0 621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3 5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

EXPLANATORY NOTE.

The July number of CONSULAR REPORTS contains a larger number of pages than the usual monthly issue, for the same reason that the preceding (June) number was of increased size, viz, the accumulation of matter awaiting publication because of the necessity which made itself apparent early in the last fiscal year of husbanding the appropriation for printing. As was explained in the June number, the activity of consular officers in preparing reports for publication has steadily increased in recent years, and the volume of matter at the disposal of the Department has grown proportionately. The appropriation for printing the reports, however, as well as the editorial force engaged in the revision and arrangement of them for publication, remains the same as when the reports were fewer and the work less difficult, and it follows necessarily, that discrimination must be exercised in giving the preference to such reports as seem to be of more immediate interest and value. At the close of the fiscal year, the balance remaining of the appropriation was utilized in printing such of the reports still awaiting publication as seemed most important. The others were filed in the archives of the Department.

This statement will explain the delay in printing many of the reports, and also, to consular officers, the nonappearance of reports which the Department hoped to be able to print, but was compelled to omit altogether.

It should be added that all reports of general interest are given to the newspaper press for such use as it may make of them as soon as possible after receipt by the Department, so that the public obtains immediate benefit from them to that extent.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LI. JULY, 1896. NO. 190.

PRODUCTION OF SUGAR IN THE ARGENTINE REPUBLIC.

The small crop of sugar produced in Cuba during the past year has given rise to a belief here that Argentine raw-sugar and molasses can be profitably exported to the United States.

In view of the probability of this being undertaken and as illustrating the extent of the sugar industry in the Republic, I inclose two statistical tables showing the production of sugar by mills and by departments. Both tables treat of the same mills and the same Province—Tucuman. The columns showing exportation indicate the quantity exported from the Province, and not from the Republic.

It will be noticed from the figures given that the thirty-one mills in the Province of Tucuman produced 240,356,976 pounds of sugar during the nine months of 1895 ending December 31; this was an increase of 75,172,236 pounds over the same period in 1894.

Sugar industry.

Departments.	Number of factories working.	Production.			Increase of production in 1895 over 1894.
		1884.	1894.	1895.	
		Kilograms.	*Kilograms.*	*Kilograms.*	*Kilograms.*
Capital	4	14,620,405	5,749,334	6,789,575	1,049,241
Cruz Alta	12	....	30,568,387	43,057,394	12,489,007
Chicligasta	3	2,813,325	8,913,204	14,780,651	5,867,447
Famaillá	6	4,938,550	17,946,703	26,718,294	8,771,591
Monteros	3	1,378,200	3,940,210	6,351,058	2,410,848
Rio Chico	2	....	7,540,480	10,883,539	3,343,059
Taff	1	....	425,655	663,660	238,005
Graneros	....	401,975	....	....	....
Total	31	24,152,955	75,083,973	109,253,171	34,169,198

Sugar industry—Continued.

Departments.	Exportation.			Increase of exportation in 1895 over 1894.
	1893.	1894.	1895.	
	Kilograms.	*Kilograms.*	*Kilograms.*	*Kilograms.*
Capital	3,249,993	5,749,334	7,124,578	1,375,244
Cruz Alta	17,290,616	30,549,262	42,039,260	11,489,998
Chicligasta	5,805,268	8,792,780	14,431,067	5,638,287
Famaillá	8,874,634	17,928,100	25,894,832	7,966,732
Monteros	2,020,444	3,909,724	5,958,731	2,049,007
Rio Chico	3,862,378	7,188,889	9,676,442	2,487,553
Tafi	174,571	425,658	574,077	148,419
Total	41,277,904	74,543,747	105,698,987	31,155,240

NOTE.—1 kilogram=2.2046 pounds.

Production of sugar in the factories of Tucuman from April 1 to December 31, 1895.

Factories.	Sugar production.	Exportation of sugar from May 1 to December 31.
	Kilograms.	*Kilograms.*
Lujan	2,921,580	2,900,470
Santa Bárbara	1,663,211	1,251,250
La Trinidad	9,159,851	9,247,117
La Azucarera Argentina	5,368,280	4,931,680
Santa Lucía	1,446,851	883,466
La Providencia	3,087,773	3,209,421
Santa Rosa	1,816,434	1,865,844
San Pablo	4,304,233	3,940,623
Bella Vista	4,413,723	4.339,180
Mercedes	6,163,210	6,163,210
Lules	2,996,973	2,618,662
La Reduccion	2,747,100	2,747,100
Santa Ana	9,220,328	8,425,192
Union	1,147,865	1,147,865
Nueva Baviera	6,093,055	6,086,057
Cruz Alta	1,535,192	1,523,857
Industria Argentina	822,008	822,008
Esperanza	3,671,049	3,344,494
San Juan	1,475,983	1,433,143
Concepcion	6,564,343	6,564,343
Los Ralos	2,511,651	2,450,366
San Vicente	1,628,809	1,628,809
San Miguel	2,536,044	2,008,183
Lastenia	6,192,199	6,205,527
La Florida	8,981,936	8,981,936
El Paraiso	4,216,600	4,176,124
San José	663,660	574,077
Amalia	2,638,789	2,638,789
San Felipe	1,459,924	1,460,524
El Manantial	1,551,997	1,877,400
San Felipe de las Vegas	252,520	252,270
Total	109,253,171	105,698,987

WILLIAM I. BUCHANAN,
Minister.

BUENOS AYRES, *March 27, 1896.*

DEPRESSION IN SUGAR INDUSTRY OF GUADELOUPE.

The general depression which has prevailed during the last ten years in this island, owing to the fall of sugar on the European market, is increasing yearly, and the financial situation seems to be almost desperate at present, as the population is wholly dependent upon sugar. The cultivation of coffee and cacao has been pushed greatly of late, but it is not sufficient to enable the people to overcome the present crisis.

The present sugar crop will be larger than that of last year by 30 per cent or more, but the high prices that had been looked for, owing to the deficiency in the Cuban crop, have not been realized.

France can not remain indifferent to the fate of her colony, for if help be not given, what will be the result? The sugar industry, which represents 90 per cent of the total production of the island, would be put to a stop, 160,000 people without work would be reduced to misery, the local bank would be ruined, and the general trade, importation and exportation, would be paralyzed. The colony would also be unable to meet its budget, which amounts yearly to over 6,000,000 francs, and the home Government would be obliged to defray the cost of the public service, now devolving on the island.

The general council and Chamber of Commerce of Guadeloupe have asked the home Government to grant an increase of bounties, and it is hoped that their petition will be acceded to. The governor of the island, who has just returned from France, will, it is assumed, sustain in his correspondence with the Ministry, the pressing solicitations of the colony.

The rate of premium on exchange for ninety days' draft is 7 per cent and postal orders on France are being issued by the treasury at 20 per cent. There is no hope of any decrease in the rates in the near future.

The total sugar production of the island during the last five years has been as follows:

	Kilograms.
1890	47,438,024
1891	30,329,313
1892	46,915,547
1893	41,158,391
1894	43,732,307

The production for 1895 is estimated at about 50,000,000 kilograms.

The cost price per 1,000 kilograms of sugar cane is estimated at 20.79 francs ($4.01 per 2,204.6 pounds); average cost of manufacturing, 14.30 francs ($2.76); total, 35.09 francs ($6.77). From this must be deducted for the rum extracted, 2 francs, leaving the value per 1,000 kilograms of sugar cane, 33.09 francs ($6.39 per 2,204.6 pounds). For each 100 kilograms of sugar manufactured at 9.69 per cent, 34.15 francs; export duty, 1.50 francs; charges, 7.42 francs; total cost landed upon European markets, 43.07 francs;

less bounty received (average of last five years), 6.78 francs, making the net cost 36.29 francs.

At the present quotation, which is in France 34 francs, there is a loss of 2.29 francs per 100 kilograms (44.2 cents per 220.46 pounds).

ST. C. DE LA RONCIÈRE,
Vice-Consul.

GUADELOUPE, *April 10, 1896.*

COFFEE CROP OF GUADELOUPE.

A great impulse has been given here during the last five years to the cultivation of coffee, which has nearly vanished from the neighboring islands. From the last official statistics, the number of plantations was 944, covering an area of 3,455 hectares (8,537 acres), and 6,839 laborers were employed thereon.

The coffee-tree culture is an easy and agreeable one, but very slow. It takes at least five years to establish a good plantation and nearly eight years before it can be seen in full bearing. But once established, it is forever. Some trees a century old can be seen on the island.

The plantations occupy chiefly the mountain ranges, varying from 600 to 1,800 feet in altitude.

Three varieties of coffee are being cultivated in Guadeloupe—"coffee arabica," which is mostly seen on the western side of the island; "coffee moka," which is said to be the true Arabian plant; and "coffee Liberiana vet liberica," newly introduced.

The coffee crop has been a full one this year and a larger one is expected for 1897. The exportation amounted this year to over 1,200,000 pounds.

ST. C. DE LA RONCIÈRE,
Vice-Consul.

GUADELOUPE, *April 12, 1896.*

COLOMBIA: REGION OF THE MAGDALENA; TRADE OF BARRANQUILLA.

REGION OF THE MAGDALENA.

The Grand Cordillera, called the Andes, runs from the Straits of Magellan, in the Southern Hemisphere, to Bering Straits, in the Northern Hemisphere. It pursues a course almost parallel to the coast of the Pacific Ocean in all its extent. The Andes enter Colombia in the southern part of the Department of Cauca and divide in two parallel ranges. Of these, the one nearest the sea follows its course toward the north as far as the Department of Bolivar, where it terminates in front of the town of Banco. This range is called the Western Cordillera. The other, which goes in a general northeast direction, bifurcates to the eastward of Almaguer, in front of the town of La Vega, and among the head waters of the Magdalena. Of these two branches, that on the left proceeds northward, under the name of Central Cordillera, and also terminates in the Department of Bolivar, like the Western Cordillera. Of these central depressions, the one on the left collects the waters which go to form the River Cauca, and the one on the right, the waters which form the River Magdalena.

RIVER CAUCA.

This river rises in the paramo of Buey, in the Central Cordillera, at an altitude of 4,550 meters (14,928 feet) above the level of the sea, in latitude 2° north and longitude 2° 18′ west (meridian of Bogotá). In its course, it receives a large number of rivers of varions dimensions and a much larger number of brooks until it unites with the River Magdalena at a point called Guamal, some distance above Magangue.

On account of its great declivity, rocky bed, and many rapids, the River Cauca is not navigable in its entire course; nevertheless, steam communication is kept up between its mouth at Guamal and the River Nechi. By this latter river, the town of Zaragosa is reached by steamers.

RIVER MAGDALENA.

This river rises on the borders of the Departments of Tolima and Cauca, in the lake called Buey, in the paramo of the Papas, in latitude 1° 58′ and longitude 2° 19′ 30″ west (meridian of Bogotá).

The course of the Magdalena, not taking into account the greater part of its deflections, is 170 miriametros, or, more or less, 1,105 English miles. It receives some five hundred small rivers, and a very large number of brooks. In its course, it passes the Departments of Tolima, Cundinamarca, Boyacá, Santander, Antioquia, Magdalena, and Bolivar. The large rivers tributary to the Magdalena, above Honda, are the Paez, Prado, Saldaña, Bogotá, and Riorecio; below Honda, the Guali, Miel, Nare Cañoregla, Carare, Opon, Colorado, Sogamoso, Cimitarra, Lebrija, Simiti, and Cesar.

The River Cesar deserves special mention on the following account: It rises in the Sierra Nevada of Santa Marta and runs in a course diametrically opposite to all the other rivers of Colombia which empty into the Atlantic, viz, a southwest direction.

At the junction of the Cesar with the Magdalena, is situated the town of Banco. Until about thirty years ago, almost the entire volume of the main river proceeded onwards in a southerly direction, passing Mompox, a fine old city founded by the Spaniards. After passing Mompox, it proceeded on until it arrived at the Bocas de Tacaloa, where it united with what was then considered to be the River Cauca. But this route is now only navigable by very light-draft boats at certain epochs of very full river, and, practically, Mompox has been left incommunicable by water, at least for steamers.

The Magdalena waters, which formerly ran that way, now almost entirely pass through the Brazo of Loba, which for some 13 leagues run in an easterly direction from Banco, until they unite with the mouths of the River Cauca, which, as before mentioned, are situated at the point called Guamal. Thenceforward, the united rivers Cauca and Magdalena roll on toward the sea.

The true delta of these two united rivers commences at Calamar, where part of their waters enter the creek called the Dique, which runs an easterly course, alternating between creeks and lagoons, and finally terminates in the bay of Cartagena.

After passing Calamar, the main river rolls on with a considerable depth of water, say 12 or 14 fathoms, or even more. Just above Barranquilla, part of its waters turn to the east, and the remainder proceeds to the Boca de Cenizas, over which it passes into the sea. This is the principal outlet of the River Magdalena to the ocean.

From the Boca de Cenizas, there extends a narrow belt of sand which is called the island of Salamanca. This belt extends as far as Pueblo Viejo, and forms a barrier between the sea and the creeks and lakes which extend as far as that village. Let us follow this chain of water. Shortly after the eastern waters have run some distance, we reach the bay of Atascosa, from which there is an opening through the Salamanca barrier of sand, and through this opening, which is called Barra Vieja, part of the waters empty into the sea. The rest of the waters go on through creeks and lagoons. At the head of the last lagoon is situated the village of Pueblo Viejo, and in its vicinity exists another mouth communicating with the sea. This is called Barra Vieja.

Thus the various mouths through which the waters of the Magdalena are discharged into the sea, are as follows, viz: (1) Through the Dique of Calamar into the bay of Cartagena; (2) through the Bocas de Cenizas, into the bay of Savanilla; (3) through Barra Vieja, from the bay of Atascosa; (4) through the Barra of Pueblo Viejo. Of all these, the principal one is the Boca de Cenizas.

Such, then, is a brief relation of the sources of the River Magdalena, its tributaries, and its course to the sea. For practical purposes, the River Magdalena is divided into two parts—from its source to Honda, it is known as the Upper River, and from Honda to Barranquilla, as the Lower River.

UPPER RIVER.

This termininates at a point called Arrancaplumas, a short distance above the town of Honda. Between Arrancaplumas and Honda, there is a considerable declivity, and the waters rush down in a most violent manner, little short of a cascade.

The Upper River is navigated by steam. The ports visited by steamers are Camboa, Ambalema and Girardot. Camboa and Girardot are situated on the eastern side. At Girardot, commences a railroad, which at present only reaches a point called Juntas de Apulo. It is intended to prolong it to Facatativá, where it will connect with the railroad from that town to Bogotá.

In exceptionally high waters, the steamers are able to reach as far as Purificación, and, on rare occasions, as far as Neiva. The Upper River steamers are of small size, but are fitted with very powerful engines. In order to reach the Upper River, they ascend from Honda to Arrancaplumas by means of a very high head of steam and making use of hawsers. They generally perform the distance in eight or ten hours.

Though Honda is the mercantile port for both the Upper and Lower Magdalena, the steamers do not arrive there. Those of the Upper River arrive at Arrancaplumas, and those of the Lower River, at a port called Yeguas. From Arrancaplumas to Yeguas, there is a considerable decline, and the navigation of this stretch would be difficult, delaying, and dangerous, on account of the rapids; therefore, a railroad has been constructed between these two points, and the up and down cargoes are remitted and received by this railroad. The local cargoes to and from Honda are also sent by this route. It is proposed to prolong this railroad down to a point called Conejo, where the sharp turns and declivities of the river are much modified.

Yeguas, the present port, is situated at an altitude of some 600 feet above Barranquilla, and, taking into account the sinuosities and bends between these two points, the distance which is run is some 202 leagues, or a little over 600 miles. Of course, the geographical distance (in a straight line) between these two points is much less.

Were the river to run the distance between Yeguas and Barranquilla in a straight line, it would be a torrent totally unfitted for navigation during some months of the year and a partially dry water course in others. But the mechanism (if I may so call it) of the river has been arranged by the Great Creator on the most beautiful lines, and a continuous water path is kept up in all seasons.

On leaving Yeguas, until arriving at Conejo, there is a series of short, sharp bends, some of them approximating to a right angle, others forming obtuse and even acute angles. From Conejo downward, as far as Nare, there are many sharp bends, one of them, the Vuelta d'Acunha, is almost a right angle. It is precisely in such trajects that the declivities are very marked and succeed one another with rapidity; hence this arrangement of sharp and frequent bends to modify them.

A little below Nare, the whole river is collected between the banks (rocky) that form what is called the Angostura. This extends for something more than a league, and then it emerges above Callejas; from thence the bends are long until one arrives at Puerto Berrio. The constant variation of these long bends spreads out the waters, many islands are formed, and after a time disappear.

Henceforward, the river gives a long stretch to the westward, until it reaches Banco. From here, a small part of the waters go through the Brazo of Mompox and join the united waters of Cauca and Magdalena through the Bocas of Tacaloa. The much greater part of the Magdalena waters takes an eastern course through the Brazo de Loba, and, on emerging, it is joined by the River Cauca, through the Bocas of Guamal. Thence, as before mentioned, the united rivers roll on to the sea.

SUPPLY OF WATER TO THE MAGDALENA.

Were the Magdalena to depend entirely on the water which accumulates in its main course, it would be only navigable by fits and starts, dependent on the accumulation of water supplied to it at and around its origin and by the various tributary rivers. But a constant supply to the main channel is kept up by the following mechanism:

On both sides of the river there exists a chain of lakes, or, say, lagoons, which lie parallel to its course. These lagoons are almost all situated some 3 leagues inward from the river. They are in communication with it by means of two creeks each. One of these is situated at the upper part of the lagoon and the other at the lower part. When the main river fills up, a supply of water runs through the creek to the upper part of the lagoon, until this latter is filled up. The pressure of the current of the full main river prevents the water from running out through the lower creek. But when the main river begins to get lower, this pressure on the mouth of the lower creek is lessened, and thus the exit of the waters stored up is allowed to take place, thereby replenishing the main river. By the time these subsidiary lagoons become emptied, there is another high river and their supplementary store of water is again replenished.

NAVIGATION OF THE MAGDALENA.

Up to the year 1839, the River Magdalena was navigated entirely by a kind of large canoe called "champan." The champan was flat-bottomed and fitted with a rounded roof of palm thatch. On this roof the crew worked. A medium-sized champan employed a crew of some twenty-five or thirty men, all told. They were ranged in two lines on the roof, and with their faces toward the stern propelled the champan upstream by means of long poles. They usually employed some three months on the upward voyage. On the down voyage, they made use of large, broad-bladed oars, and rowed the champan along. They usually spent some six weeks in getting down to Barranquilla. In the year 1839, the mercantile house of Montoya & Saenz, of Bogotá, ordered a steamer from England, with the view of employing her in the navigation of the river. In the month of July, 1839, the *Union* arrived at Barranquilla via the Boca de Cenizas, and immediately proceeded on her upriver voyage. Dr. McGregor, acting British vice-consul at Barranquilla, has in his possession the log of the river voyage. It is most interesting to read and compare those times of more than fifty years since with the present times. The *Union* was a keel boat and a side wheeler, and rigged in true sea fashion. She left Barranquilla about the 25th of July, and, after battling with many difficulties, arrived at the Vuelta de la Madre de Dios, not far below Honda, on Monday, the 26th of August, carrying a cargo of some 1,200 packages and some hundred people.

It seems strange to read in the log that they were detained in Mompox six days, taking down the masts and sea rigging, which were left there to be called for on her return. The *Union* continued navigating the river until the end of the year 1840, when it was destroyed by fire during a revolution. Time went on, and the commercial business of the country continued to increase in such a manner that it was very evident that unless more facilities for importing and exporting were provided, commerce would disappear. In the fifties, there was more palpable evidence, but at the beginning of the sixties the increase of ocean facilities by seagoing steamers running on schedule time made it a case of imperious necessity to navigate the Magdalena by steam, under a thoroughly organized system, and with steamers adapted to the case.

All this gave a remarkable impulse to the navigation of the River Magdalena by steam, and since then, obeying an ever-increasing necessity, it has progressed in the right road. At the present day, there are about forty steamers on the river belonging to various companies. The most important of these is the Colombian Transport Company of Barranquilla. This company owns a fleet of over twenty steamers—one of 300 tons, one of 280, one of 250, and the remainder of different capacities, ranging from 175 to 30 tons. The hull of one of these steamers is of wood, two of them are of iron, and the remainder are of steel. The traffic performed by the Colombian Company during the first six months of the present year was 6,387 tons of up cargo and 1,036 passengers, and 5,000 tons of down cargo, $174,000 in treasure, and 865 passengers. The other lines have done proportionately the same amount of traffic.

All the steamers on the river are stern wheelers, broad, and almost flat-bottomed. Their draft does not exceed 3 feet when loaded, and their usual rate of traveling is about 2 leagues per hour upriver and 4 leagues per hour down.

The fuel used by the steamers is wood. All along the river's course there are wood stations, where large deposits of wood are permanently kept by those engaged in this business. On arriving at one of these stations, the only delay which a steamer incurs is the embarking of the wood, which is done by her own crew.

I may here incidentally refer to the immense vitality of the vegetation on the banks of the Magdalena, which begins in its force above Banco. For the last fifty years all the wood burned on board the steamers has been extracted from these banks, and yet there are no gaps or cleared lots to be seen, so virile, if I may so term it, is the growth of the forest.

The journey from Barranquilla to Yeguas is usually performed in seven days, or rather, I will say, they arrive on the eighth day. When the river is in fair water, a boat can run night and day up as far even as La Gloria, above Banco; from thence, it can only run by day. The down journey usually occupies four days.

The navigation of the river is by no means difficult, and it is very seldom that any considerable delay is incurred by grounding. However low the waters of the river may be, a channel always exists, and that channel is easily found. The pilots are an expert body of men, and it is very rare that any of them run their steamers aground in such a manner as to cause delay and difficulties in getting off again. The navigation is easiest when the river is at a medium height. On the immediate subsidence of a very high river the navigation is not easy until the channel forms again.

The greatest danger to navigation on this river arises from the snags. During high river, these grounded snags get sodden with water and sink so far toward the bottom as not to cause a ripple on the surface, and almost all the accidents happen from this cause. Thus, the body or chief trunk of the snag is sunken, but its branches remain free under the water. The steamer comes on, and, though not touched by the chief trunk of the snag, has its hull pierced by some projecting branch and its sides ripped up.

DISASTERS IN RIVER NAVIGATION.

There has always been a remarkable exemption from disasters attended with loss of life, explosions, etc. I can only remember one fatal explosion, which occurred some years ago on board of a Cartagena steamer, on her way through the Dique of Calamar—one where a capstan which guided a hawser was torn out and three or four men killed.

The Barranquilla companies all have extensive and well-arranged workshops and foundries. Boilers and various pieces of machinery are manufactured in these workshops, and all kinds of repairs made on the steamers. They possess several dry docks, where any of the boats that have been damaged can be hauled up and thoroughly and skillfully repaired.

Between Barranquilla and the town of Magangue, which is situated some 10 leagues below the Bocas de Guamal, there is a considerable traffic carried on from the various river ports by means of large boats propelled by poles. Several of the mercantile houses here own boats of this class, and they employ them to bring down cargoes of unginned cotton, divi-divi, logwood, and other articles of export, which, from their low intrinsic value, can not pay steamboat freights. By this economy, they relieve somewhat the total charges of exportation.

PROSPECT FOR DEVELOPMENT OF TRADE.

What has been laid down in the foregoing sketch of the Magdalena River proves conclusively that this river affords ample facilities for the efficacious and secure transportation of any conceivable amount of exports and imports applicable to a large portion of the Republic of Colombia.

The present amount of imports and exports is very considerable and every successive year brings an increase in quantity and total value. The exportation of the single article of coffee during the first six months of the present year (1895) has amounted to from 80,000 to 90,000 sacks of 125 pounds each.

The imports of the same period have also increased enormously over those of last year. Be it clearly understood that the increase in trade is not due to any extraordinary cause—it is merely the natural augmentation of the laboring forces of the country.

Besides the usual articles of export, there are preparations being made for the exportation on a grand scale of various articles which, up to the present, have not been exported in large or even in any quantity, viz, woods of various and valuable kinds, logwood, taguas, railway sleepers, etc., and, last, but by no means least, cattle.

Of cattle, an unknown quantity can be raised along the banks of the Magdalena, but all depends on there being a secure outlet through the mouth of the Magdalena—the Boca de Cenizas—as none of the exports mentioned can resist the extra cost of the railroad freight. In fact, in the case of cattle, for obvious reasons, they must be embarked once and for all on board the vessel which takes them to their destination.

PORT FACILITIES AT BARRANQUILLA.

From the fifties to the seventies Barranquilla suffered much for want of accommodations for export and import. In the year 1870, a railroad was constructed between Barranquilla and the bay of Savanilla, and, in a great measure, this railroad was and still is the mainstay of the commerce of the country. But various difficulties presented themselves; thus, the terminus first adopted on the bay of Savanilla, called Salgar, was found unsuitable for prompt or even moderately prompt dispatch, inasmuch as all disembarkations and shipments had to be effected by means of barges towed by tugboats to and from the sides of the vessels, which were anchored in the roadstead at a considerable distance from the shore. This was remedied by the construction of a pier, stretching 4,000 feet into the sea, where there is water sufficient for the largest class of steamers to come alongside. And this is the present method of embarking and landing. Much praise is due to the company which has brought the railroad export and import facilities to the present state. Still, if we reflect that everything is moving onward in progression, we can not avoid seeing that in five or six years, at the farthest, the present facilities will be entirely inadequate for the commerce of the country; even at the present moment there is no accommodation for the export of various articles before mentioned or for the importation of heavy pieces of machinery, etc.

GROWTH OF COLOMBIAN COMMERCE.

In the year 1876, an extensive cattle trade sprung up between here and the island of Cuba, which demanded cheap transport, and the result was that, from the year 1876 to 1884, steamers and sailing vessels entered through the Boca de Cenizas to carry on this trade. Steamers of the Royal Mail, Atlas Line, and various others entered and went out again after discharging and loading in Barranquilla, during those years, and no accident of any importance occurred.

At the conclusion of the trade with Cuba, and with a more energetic administration of the railway, the traffic was resumed via Salgar. The experience of the last twenty years proves that the commerce of Colombia is becoming more and more important year by year. This commerce is conducted by a most respectable body of men, Colombians and foreigners, and enjoys the perfect confidence of the various mercantile centers. It is highly satisfactory to know that Colombian mercantile credit occupies a high position in the world.

It is but just, then, that such a commerce, with its honorable antecedents, should be supported in its interests by the country which it so adorns.

AN OUTLET TO THE SEA.

The vital question now is the taking of the necessary steps to insure a full and ample accommodation for the export and import trade.

On the one hand, we have a perfectly navigable river at all seasons of the year, traversing the most important part of the country. The proof of its navigability is that large and powerful companies have not hesitated to invest large sums in the requisite vehicles. The navigation of the Magdalena has been abundantly proved, not only to be practicable, but also to be as safe as any navigation can be; but this river lacks at present one essential requisite—the opening of its outlet directly to the sea. That it is perfectly feasible, there exists not a doubt. By opening the Boca de Cenizas to commerce, a secure and permanent outlet would be secured for all time.

This, then, is the burning question of the day. Before this question all local rivalries ought to disappear. The advantages will not enrich or impoverish any given locality. The gain will be felt over the whole of Colombia.

JOHN BIDLAKE,
BARRANQUILLA, *March 31, 1896.* *Consul.*

TRADE OF BARRANQUILLA IN 1895.

I have the honor to forward certain statistics showing the import and export trade of this port for the year 1895.

Import trade of Barranquilla in 1894 and 1895.

Nationality.	Number of vessels.		Tonnage.		Cargo landed.		Passengers landed.	
	1894.	1895.	1894.	1895.	1894.	1895.	1894.	1895.
					Tons.	*Tons.*		
British	138	140	205,137	209,708	16,445	19,636	460	386
French	48	48	101,217	90,644	1,705	2,249	624	409
German	29	25	47,480	38,642	2,184	2,931	69	30
Italian	19	23	23,336	32,049	618	1,904	152	247
Spanish	12	12	16,042	17,105	248	451	91	110
Norwegian	1	10	332	4,194	264	2,074	1	10
Colombian	....	3	....	231	....	200	....	8
Total	247	261	394,444	392,573	21,464	29,445	1,397	1,200
Steamships	241	247	392,688	389,060	20,987	27,081	1,396	1,192
Sailing vessels	6	14	1,756	3,513	477	2,364	1	8
Total	247	261	394,444	392,573	21,464	29,445	1,397	1,200

Export trade of Barranquilla in 1895.

Nationality.	Number of vessels	Tonnage.	Cargo.	Passengers.
			Tons.	
British	138	209,164	12,097	1,417
French	48	90,643	2,543	524
German	25	38,642	4,228	37
Italian	23	32,049	59	206
Spanish	12	17,106	485	107
Norwegian	9	3,833	....	4
Colombian	3	231	....	1
Total	258	391,668	19,412	2,296
Steamships	247	389,057	19,412	2,291
Sailing vessels	11	2,611	....	5
Total	258	391,668	19,412	2,296

Export of treasure from Barranquilla in 1895.

Nationality.	Lines.	London.	Paris.	Hamburg.	New York.	Colon.	Naples.	Total.
British	Royal Mail	$1,027,292	$70,199	$14,587	$5,705	$54,425	....	$1,172,208
French	French Line	498,509	417,893	8,550	....	15,136	....	940,088
British	Atlas Line	....	....	....	37,352	....	....	37,352
Spanish	Spanish Line	....	....	....	....	244,119	....	244,119
Italian	Italian Line	....	....	....	....	....	$1,620	1,620
Total	....	1,525,801	488,092	23,137	43,057	313,680	1,620	2,395,387

JOHN BIDLAKE,
Consul.

BARRANQUILLA, *March 30, 1895.*

PERU AND THE PERUVIAN CORPORATION.

I have the honor to transmit copies of a striking editorial from El Comercio, of Lima, and the translation thereof, presenting the Peruvian view of the pending issue with the Peruvian Corporation. El Comercio is the oldest paper in Lima and is regarded as the most influential and reliable expounder of Peruvian thought.

As the contract between Peru and the Peruvian Corporation is fully described in Chapter III of the Handbook of Peru, lately issued by the Bureau of the American Republics, I deem it inopportune to refer to said contract further than to note that the issue above referred to has for its basis the failure of the Peruvian Corporation to construct the 160 kilometers additional to the Government railways ceded to it for sixty-six years and, per contra, the failure of the Peruvian Government to pay the annuity of £80,000 for the years 1893, 1894, and 1895.

The editorial of El Comercio fully sets forth, from the Peruvian standpoint, the issue, in the proper solution of which the rapid growth of the wealth, commerce, and population of Peru largely depends.

When the railroads are built that will facilitate the colonization of the Montana and the consequent extraction of the riches now dormant in the forests, open plains and mines of this marvelously favored region, the trade of Peru will excite the eager competition of the nations. The addition of a few hundred miles to existing railways would suffice to effect this transformation.

In his work on The American Commonwealth, Hon. James Bryce prophetically says:

> The fate of western South America belongs to a still more distant future; but it can hardly remain unconnected with what is already by far the greatest power in the Western Hemisphere. When capital, which is accumulating in the United States with extraordinary rapidity, is no longer able to find highly profitable employment in the development of western North America, it will tend to seek other fields. When population has filled up the present territory of the United States, enterprising spirits will overflow into undeveloped regions. The nearest of these is western South America, the elevated plateaus of which are habitable by northern races. It may be conjectured that the relations of the vast territories in Ecuador, Peru, and Bolivia, for which the Spaniards have done so little, and which can hardly remain forever neglected, will one day become far closer with the United States than with any European power.

My own observations of this field have driven the same conviction into my mind. This conviction has led me to regard everything affecting appreciably the progress of Peru as having some bearing upon the expansion of the trade of the United States. Hence, I have deemed it useful to submit the accompanying papers.

LEON JASTREMSKI,
Consul.

CALLAO, *March 23, 1896.*

[Translation.*]

The Financial News, one of the important commercial publications of London, contains an editorial, the translation of which appeared in our morning edition of March 19. It is designed, seemingly, to expose the difficult financial situation in which the [Peruvian] corporation has fallen, but in reality it is written with the deliberate purpose of making this company and the English public appear as victims of our bad faith in the fulfillment of contracts.

To absolve the corporation for its financial failure, the cause is ascribed to the default of Peru in the payment of the annuity of £80,000; and, in terms highly offensive to the national dignity, we are charged with deceitful practices, with being a nation of dishonest schemers, and the Government, people, and Congress of Peru a lot of knaves dead to every instinct of honor and national dignity.

Thus, by partial explanations of causes and shuffling in the defense of the corporation, it is sought to destroy our credit in the markets of Europe and to have the unwary English public cast odium upon Peru, with no other lights before them than the tale made up in defense of the corporation. The public do not know the details of the negotiation, and in seeing the stockholders threatened with the loss of their investments, they are easily prejudiced against Peru and do not suspect that it is not Peru, which has sacrificed all it had to restore its credit, that is blamable. * * * It is very convenient for them, indeed, to escape responsibility toward the investors by charging that Peruvian bad faith is the origin of the great failure which has occurred.

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* Portions of the article have been omitted by the Department as nonessential.

The article in the Financial News strives hard to convince that all the difficulties of the corporation arise from the nonpayment of the annuity of £80,000, and it concludes with the intimation that it is necessary for those who have risked their funds thus far to continue to do so for a while longer, if they would save the capital invested.

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For the vindication of our national honor, and because it is indispensable that the English public should know the truth of this case, we will proceed to prove that the corporation's difficulties originate from causes wholly different from those to which they have been ascribed by the Financial News.

The first proposition, which was made in August, 1886, provided that in consideration of £6,000,000, the following railways were to be constructed: From Mollendo to Islay, from Santa Rosa to Marangani, from Marangani to Sicuani, from Chicla to Oroya, from Oroya to Cerro de Pasco, from Ancon to Chancay, and from Oroya to Huancavelica, a total of 500 kilometers (an average cost of £12,000, or 120,000 soles, per kilometer—a sum obviously ample to cover the cost of construction over country offering few difficulties and over partly made sections of road).

So safe was this estimate that Sir Henry Tyler, in the great meeting held by the bondholders on December 28, 1886, stated it as a certainty that not more than £2,500,000 would be required to develop the railroad system of Peru (namely, the 500 kilometers), and, casually, the then president of the board of stockholders confessed that in the proposition made in August of the same year, we had been asked £3,500,000, or 35,000,000 soles, more.

Right here, we have Sir Henry Tyler, an English authority in railway construction, giving the figure of £5,000 per kilometer as sufficient for the said 500 kilometers. This estimate is ample when the work between Chicla and Oroya and the section between Santa Rosa and Sicuani are considered. The greater part of this work was much advanced and its completion comparatively easy.

This corporation, that now presents us to the world as a nation of swindlers, and in whose meetings some have gone so far as to call us bandits; this corporation, we repeat, pretends to have expended in the construction of 146 kilometers, all it has built to date, the sum of £3,700,000, or 37,000,000 soles. This is equivalent to the enormous sum of 260,342 soles per kilometer, which is simply absurd, for even the most ignorant in engineering knowledge can see that this amount is in every aspect prodigious.

In these 140 kilometers are included the 80 kilometers that were unfinished between Chicla and Oroya and the space between Santa Rosa and Sicuani of 66 kilometers. For this, there could not have been expended at most £1,120,000, including the expenses for the sparse colonization of the Péréné and the insignificant little steamers on Lake Titicaca, etc.

But raising this sum to £1,500,000, £90,000 would pay the 6 per cent interest thereon. Although in the fiscal year 1894-95, owing to the revolution and the fall in exchange to 24d., the net receipts of the railways were £97,432. Said receipts should have covered amply the £90,000 on the capital that ought to have been invested; therefore, notwithstanding the default in the payment of the annuity of £80,000, to which has been ascribed the failure of the corporation, this company could have paid the 6 per cent interest to the stockholders, had its affairs been managed as they should have been, leaving a balance of £7,432.

Consequently, it is obvious that the difference between £3,700,000 and £1,500,000, namely, £2,200,000, was invested neither in railways, steamers, nor colonization. This, the Financial News and the corporation are careful not to mention; and this the * * * stockholders who are declaiming about Peruvian bad faith know nothing of.

But we will not stop here. The board of stockholders had an increased number of engineers and accountants, all experts, to examine during several months the condition of the railways, etc., and, upon the reports of these experts, Sir Henry Tyler tells his countrymen that the railways are yielding a net income of £546,000, a sum obviously imaginary.

Let the bondholders, then, require of these practical men who spend £3,700,000 in lieu of £1,500,000 to account where this difference of £2,200,000 has been placed. * * *

Let those who are now so angry consider, besides, that when Peru obligated itself to pay the annuity of £80,000, it was made to believe that the sacrifice it was assuming would be compensated by an era of internal prosperity sure to follow the settlement of its foreign debt; that if our public men consented to have the country incur this onerous obligation, these same bondholders exerted themselves to prove by roseate promises that the payment of this annuity by our Government would be easily made from the increased revenues that would flow from the impetus that the corporation was to give to the country by the 160 kilometers which it obligated itself to construct and from the great influx of immigration it was to bring.

The bondholders should consider that the corporation, having failed to carry out any of its pledges, particularly the obligation to construct 160 kilometers more, it would be absurd and iniquitous for them to expect from an impoverished country like ours, which has already delivered all it had to its creditors, that it would take from its alimony that which is indispensable to its national existence.

It follows, therefore, from the foregoing, that, as usual, the perpetrators of the injury to the English public are those who have managed the affairs that we have discussed. Had the funds provided in the contract been employed by the corporation to construct feeders for its trunk lines; had its affairs been well managed and its funds not been diverted to pay commissioners who have accomplished nothing more than to draft highly colored reports; and, finally, had the obligation to construct the 160 kilometers been fulfilled, it is probable that the corporation would have met the interest on the capital invested and would have gained the good will of the Peruvians.

BRAZIL: MINERALS, MINING, ETC., OF THE STATE OF BAHIA.

Owing to the deficiency of records and statistics, reliable information has been more difficult to obtain than I anticipated when I began this report, several months ago. Tradition tells fabulous stories of enormous wealth in gold, silver, and diamonds having been extracted from mines in the State of Bahia.

GOLD.

It is impossible to get anything like an accurate estimate of the amount of gold that this State has produced. There are a good many gold mines in different parts of the State known to have been worked more than a hundred years ago and long since abandoned. Bahia has never been thoroughly prospected, or even explored, and no scientific mining has been done.

One of the oldest mines in the State is Minas de Oro do Morro de Fogo (gold mines of Fire Mountain), situated a little south of the center of the State. These mines were worked more than a hundred years ago. During Portuguese rule, a tax of 10 per cent of the output was levied by the Crown. The records show an aggregate of about 65 arrobas (about 2,000 pounds) paid into the treasury of the Crown, making a corresponding output of about 20,000 pounds of gold extracted from this mine before the independence of Brazil. These mines have been extensively worked since, though the deepest shaft is not over 75 feet, at which depth water was reached, and no attempt to go deeper has been made.

The Momonas placer diggings, in the same district and on the same mineral belt with Morro de Fogo (free and very coarse gold, gangue talcous slate), have furnished large quantities of gold, and are still being worked. Some 200 miles north of the Morro de Fogo district is the Jacobinas gold district, the ores of which are iron and arsenical pyrites in quartz gangue. A Brazilian company erected a twenty-stamp mill at Jacobinas several years ago. The average monthly output of this company is not over $1,500. It is said, with proper management, the output could be more than doubled. The deepest shaft is about 120 feet.

The richest and most important mines now worked are in the Serra do Assurua district, about 150 miles west from Jacobinas. These mines yield the purest gold, mostly in nuggets. Placer mining in the most primitive manner is done—the miners use a common hoe and a wooden wash pan, called here "batea." They dig out loose quartz rocks which are imbedded in red clay, pound them, and wash in the batea. About eight years ago a company was organized with capital sufficient to properly work these mines with hydaulic power. Machinery was purchased and shipped by rail as far inland as possible; the balance of the way (a distance of several hundred miles) it would have had to be hauled over dirt roads, which they found impossible, as they had neglected to have the heavy parts made in sections. The company became discouraged and broke up without sticking a pick into the ground.

SILVER, LEAD, AND ZINC.

Near the head waters of the Rio Verde (Green River) has been found, in lime formation, an argentiferous lead ore and galena, very rich in silver. It has not been mined, as the prospectors have not found it in sufficient quantities to pay. Zinc is found in the same place in the form of calamine or carbonate of zinc. Proper research may, however, develop larger bodies of these ores. There are also some very superior calamine-ore deposits in the southern part of this State, near the coast.

IRON AND MANGANESE.

Magnetic iron ores, carbonate, homalite, and limonite are abundant, but too far in the interior and from cheap transportation to be of any value under the present state of affairs. Manganese-ore deposits at Psilomelan, not far from the city of Bahia and near a railroad line, could easily be worked and the product shipped, but, owing to its extremely low price at present, they are considered valueless.

COPPER.

Near the town of Villa Nova, on the Bahia Los Franzisco Railroad, there are deposits of green carbonate ores, running as high as 30 per cent of copper, but undeveloped.

QUICKSILVER OR MERCURY.

There are enormous quantities of low-grade ores, running from one-tenth of 1 per cent to 2 per cent, near the city of Nazareth, which a syndicate is developing. They have recently put up retorting furnaces. These mines are managed by Mr. Charles Nack, an American citizen and mining engineer, who has had ten or twelve years' experience in the mining districts of the Western States and Mexico. To this gentleman I am indebted for much of the information in this report.

KAOLIN AND FELDSPAR.

On the line of the Bahia Los Franzisco Railroad, and near the city of Nazareth, quite near the coast, are inexhaustible quantities of kaolin and feldspar, but there is not a stoneware factory in this country.

COAL, ETC.

On the island of Itaparica, opposite and across the bay from Bahia, also in the southern part of the State and near the coast, small strata of lignite are seen cropping out, giving general and good indication of coal, but they have not been developed or prospected. At Morahu, south of Bahia, on the coast, an English company established extensive works for the purpose of extracting coal oil from divers bituminous substances and manufacturing candles, etc. The company also manufactured sulphuric acid from iron pyrites. The company failed and the works have been idle several years.

LIME.

While all the cement and the better grade of lime used in this country are imported (only an inferior grade of lime being manufactured from oyster and other shells and coral) there are enormous mountains of limestone, offering flattering inducements to enterprise, within 200 miles of the city of Bahia and only about 15 miles from the Bahia Central Railroad. Wood and water in abundance are to be found on the ground. The limestone is of different qualities, mostly stratified horizontally. There are large quantities of it, of very close grain and taking a high polish. It is excellent for lithographing and all kinds of marble industries. Some, again, contains 25 per cent of impurities, which makes an excellent hydraulic lime or serves for the manufacture of cement.

GRANITE AND PORPHYRY.

These exist in enormous quantities, of beautiful shades, suitable for building, monumental, and statuary work, but are never used. All marble work is imported from Italy.

GRAPHITE.

Graphite is found in primary and transition formation, but not in large quantities.

MONAZITE.

In the southeastern part of this State, on the coast, are large deposits of monazite,* which is said to contain 3 to 4 per cent of thorium. A company of four (three Brazilians and one American) have recently obtained a concession from this State, giving the company the sole right to work these mines for fifty years. They pay the Government 10 per cent of the net profits.

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*These monazite deposits are found at different places on the coast for a distance of about 70 miles. The principal is at Prado.

DIAMONDS.

There is a great difference in the opinion of men who have had experience in diamond digging in this State. Some contend that the industry is in its infancy, that there has been only surface mining in the most primitive way, and that when mining is done scientifically, diamonds will be found in large, paying quantities; while others argue that the cream has been taken and only the "skim milk" remains. The principal or most important fields that have been worked are on the Serra (mountain) das Lavras Diamantinas and Serra da Sincora. Near the mines, are the towns Lencoes and Andarahy, at which places there are lapidaries who cut many of the stones. In the above-named mountains are the head waters of the River Paraguassu. In the deep pools of this river, at the foot of the mountains, the miners dive to the bottom and bring up diamonds. Recently an American imported some diving suits for his men. He tells me that when the water is low in the river, he anchors a boat, sends his divers down, and fills the boat with earth from the bottom, then washes it to get the diamonds and carbon. A few months ago, a carbon was found at Roncardor, near Lencoes, which weighed over 3,000 carats and was sold here for about $25,000 and shipped to Europe. On the Serra Itaraça, near Salobre, in the southern part of the State, are found the finest diamonds. These are among the oldest and most important fields, and they are still being worked. Diamonds and carbon have been found at several other places in the State, but not developed.

I have been informed that an English company was organized with a large capital and modern machinery for the purpose of mining, on an extensive scale, for carbon, but decided only a few days ago to postpone the enterprise indefinitely on account of the unsettled state of affairs.

R. P. McDANIEL,
Consul.

BAHIA, *December 14, 1895.*

MEXICO: AMENDMENTS TO THE CONSTITUTION; FINANCIAL CHANGES, INDUSTRIAL CONDITIONS, ETC.

SUBSTITUTE, OR AD INTERIM, PRESIDENT.

I inclose herewith a copy and translation of a decree of the President of Mexico, stating that the Mexican Congress, in the exercise of the power conceded to it by the federal constitution, and with the previous approbation of the majority of the legislatures of the States, has declared articles

79, 80, 82, and 83 of the constitution to be amended and an addition made to article 72 of the same. The decree gives in full the amendments and addition.

M. W. RANSOM,
Minister.

MEXICO, *May 1, 1896.*

[Translation.—Decree published in the Diario Oficial, April 24, 1896.]

AMENDMENT TO THE CONSTITUTION OF MEXICO.

The Congress of the United Mexican States, in the exercise of the power which article 127 of the federal constitution concedes to it, and with the previous approbation of the majority of the legislatures of the States, declares articles 79, 80, 82, and 83 of the constitution to be amended and an addition to article 72 of the same, in the following tenor:

ARTICLE 72.

Congress has power:

XXXI. To appoint, both houses of Congress being assembled for such purpose, a President of the Republic, either with the character of substitute or with that of ad interim, to act in the absolute or temporary defaults of the constitutional President. Likewise, to replace in the respective cases and in equal form the substitute as well as the ad interim, if these in their turn should default.

XXXII. To qualify and to decide upon the petition for leave of absence that the President of the Republic may make.

It is the exclusive faculty of the House of Deputies—

II. To qualify and decide upon the resignations of the President of the Republic and of the magistrates of the supreme court of justice.

ARTICLE 79.

I. In the absolute defaults of the President, excepting that arising from resignation, and in the temporary defaults, excepting that proceeding from permission, the Secretary of Foreign Relations, and in case there be none or if there exists an impediment, the Secretary of Government shall take immediate charge of the Executive power.

II. The Congress of the union shall assemble in an extraordinary session the following day, in the Chamber of Deputies, more than half of the total number of members of both houses being present, the officers of the House of Deputies acting. If no session can be had on account of no quorum or for other cause, those present shall compel, from day unto day, the presence of the absentees, in accordance with the law, so as to hold the session as soon as possible.

III. In this session, the substitute President shall be elected by the absolute majority of those present, and in a nominal and public vote, without any proposition being discussed therein nor anything else done but to take in the votes, publish them, and make a close examination and publish the name of the one elected.

IV. If no one of the candidates should have received the absolute majority of the votes, the election shall be repeated as to the two who had the greater number of votes, and the one receiving the majority will be elected. If the competitors should have received an equal number of votes, and on a repetition of the election an equal result shall be obtained, then the drawing of lots shall decide the one who must be elected.

V. If there be an equality of votes for more than two candidates, the election as to which of these shall be made, but if at the same time there is another candidate who may have obtained a majority of votes, he shall be considered as first competitor, and the second shall be chosen by votes out of the first mentioned.

VI. If Congress be not in session, it shall meet, without the necessity of a convocation, on the fourteenth day following that of the default, under the direction of the board of permanent commission which may be in duty, and shall proceed as already stated.

VII. In case of absolute default caused by the renouncement of the President, Congress shall convene in the form set forth for the appointment of the substitute, and the resignation shall not take effect until the appointment of the substitute and of the legal protest by him.

VIII. In relation to temporary defaults, from whatever cause, Congress shall appoint an ad interim President, observing for this purpose the same procedure as prescribed for the cases of absolute default. Should the President ask for leave of absence, he will, at the time of so doing, propose the citizen who must take his place; the permission being granted, it will not take effect until the ad interim (President) shall have protested, it being within the President's faculty to make use or not of said leave, or to lessen its duration. The ad interim shall only exercise the functions during the time of temporary default. The petition for permission shall be addressed to the House of Deputies, who shall at once deliver it to the proper commission for its perusal, at the same time summoning the Senate for an extraordinary session of Congress, before which the commission shall render its decision. The proposition with which the decision may end, if favorable, shall comprise in a decree of a sole article the granting of the permission and the approval of the proposition, which shall be decided upon only by one ballot.

IX. If, on the day appointed by the constitution, the people's President elect shall not enter into the discharge of his office, Congress shall at once appoint an ad interim President. If the cause of the impediment be transitory, the ad interim shall cease in the Presidential functions when said cause ceases and the President elect enters into the discharge of his functions. But, should the cause be of that kind that produces absolute impossibility, so that the President elect can not enter into the exercise of power during the four years, Congress, after appointing the ad interim President, shall, without delay, convoke the extraordinary elections. The ad interim President shall cease in his functions as soon as the new President elect protests, and this shall complete the constitutional period. Should the impediment arise from the fact that the election be not made or published on the 1st of December, a President ad interim shall also be appointed, who will discharge the Presidential duties until those requisites are complied with and the President elect takes due protest.

X. The defaults of the substitute President and those of the ad interim shall also be remedied in the manner prescribed, except in regard to the second, in the case when the constitutional President, who, having temporarily separated himself, may again assume the exercise of his duties.

ARTICLE 80.

Should the default of the President be absolute, the substitute appointed by Congress shall terminate the constitutional period.

ARTICLE 82.

The President, upon taking possession of his office, shall swear before Congress under the following formula: "I protest to perform loyally and patriotically the functions of President of the United Mexican States; to keep and cause to be kept, without any reserve, the constitution of 1857, with all its additions and reforms, the laws of reform, and all those laws emanating therefrom, watching everything for the good and prosperity of the union." The Secretary of Department, who may take provisional charge of the Executive power, in its case, is exempted from this requisite.*

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Therefore, I order the same to be printed, published, circulated, and that due compliance be had therewith.

Given at the national palace of the union, in Mexico, on the 24th of April, 1896.

PORFIRIO DIAZ.

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* Here follow the names of deputies signing.

ABOLITION OF INTERSTATE TARIFFS OF MEXICO.*

I inclose herewith a copy and translation of a decree of the President of the Republic of Mexico, declaring that articles 111 and 124 of the federal constitution of the United States of Mexico have been amended and certain additions made thereto. The President's decree states in full the amendments and additions.

M. W. RANSOM,
Minister.

MEXICO, *May 6, 1896.*

[Translation of decree published in the Diario Oficial, May 1, 1896.]

AMENDMENT TO THE MEXICAN CONSTITUTION (INTERSTATE CUSTOMS DUTIES ABOLISHED).

The Congress of the Union has decreed the following:

The General Congress of the United Mexican States, in conformity with the provisions of article 127 of the federal constitution, and with the previous approbation of the State legislatures, declares articles 111 and 124 of said constitution amended and an addition made to same in the following terms:

First. Section III of article 111 of the federal constitution is amended, and an addition made to the said article in the following terms:

The States shall not—

III. Coin money, issue paper money, stamps, or stamped paper.

IV. Obstruct the transit of persons or goods crossing its territory.

V. Prohibit or molest, either directly or indirectly, the entrance or exit, to or from its territory, of national or foreign merchandise.

VI. Obstruct the circulation or consumption of national or foreign goods by means of imposts or taxes that may be exacted through local custom-houses, by requiring the inspection or registration of packages, or by requiring the documentation to accompany the merchandise.

VII. Decree or maintain in force laws or fiscal decrees which may cause differences of taxes or requisites, by reason of the source of national or foreign merchandise, whether these differences be established in regard to a like production in that locality or on account of like production from different sources.

Second. Article 124 of the federal constitution is amended in the following terms:

ARTICLE 124. It is the exclusive faculty of the federation to obstruct merchandise, imported or exported, or which passes in transit through the national territory, likewise to regulate at all times, and even to prohibit for reasons of policy and security, the circulation within the Republic of all merchandise from whatever source; but the said federation can not establish or decree in the district or federal territories the taxes and laws expressed in Sections VI and V of article 111.

Transitory article.—These amendments and additions shall take effect on the 1st of July, 1896.

SUPPLEMENTARY DECREES.

I have the the honor to forward three decrees, recently issued by the President of Mexico, which were necessary to carry into effect the constitutional amendments relative to the abolition of the alcabalas, or interstate duties. These decrees are as follows:

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* For description of these tariffs, see CONSULAR REPORTS No. 183 (December, 1895), pp. 490-495, and No. 189 (June, 1896), p. 354.

(1) Decree abolishing the tollgate and consumption duties in the Federal District.

(2) Decree establishing the imports custom-house at the City of Mexico.

(3) Decree establishing a 7 per cent stamp tax upon foreign imports.

M. W. RANSOM,
Minister.

MEXICO, *May 16, 1896.*

[Translation of decree published in the Diario Oficial, May 12, 1896.]

TOLLGATE AND CONSUMPTION DUTIES.

ARTICLE 1. From the 1st of July of the present year, the portazgo (toll) duties on national goods and the consumption duties on foreign goods shall cease in the Federal District. On the same date, the principal administration of rents of the district, with all its departments, shall be suppressed.

ART. 2. The employees who, in virtue of the present law, may be left without employment, and whose services may not have been utilized in some other service of the federation, States, or municipalities, may be assisted during the first three months with half the salary which they received at the time when this law comes into effect, such assistance in all cases ceasing on the day when they are appointed to some other office. The granting of this privilege is entirely by permission, and can only be obtained by those employees who have been in service for one year at least, without unfavorable notes against them.

ART. 3. The building, warehouses, and courtyards of the Santiago custom-house at this capital shall be in due form delivered on the 1st of July by the collector of customs to the collector (or administrator) of the imports custom-house of Mexico, established by a different law bearing even date. The national or foreign goods which, for whatever motive, may be warehoused in the custom-house shall also remain in the custody of Mexico's custom-house and on the conditions and for the time determined upon by the laws, regulations, and respective documents. All these goods shall, in accordance with the provisions of article 1, be exempted from the portazgo and consumption duties, whatever be the date of their extraction from the warehouses, and shall only be subject to warehouse charges and other taxes to which they are subject, excepting those mentioned.

ART. 4. Railroad companies connecting the capital with any other point within the Republic, outside of the Federal District, shall continue, as heretofore, making the delivery of the goods which they transport to this capital and the loading and unloading of merchandise in transit, at the custom-house at Mexico, subjecting themselves in the management thereof to the regulations that may, for this purpose, be issued by the Department of the Treasury, which may authorize, in exceptional cases, the unloading of goods at determined places or stations.

[Translation of decree published in the Diario Oficial, May 12, 1896.]

IMPORTS CUSTOM-HOUSE IN THE CITY OF MEXICO.

ARTICLE 1. On the 1st of July next, there shall be established at the City of Mexico, a custom-house of imports, as auxiliary to the frontier and maritime custom-houses connected by railways with the capital, for the dispatch of foreign goods within the terms to be authorized by the general ordinance of custom-houses and future dispositions.

ART. 2. The custom-house of Mexico shall not carry an account of its own, and its mission shall be that of continuing the operations of the maritime and frontier custom-houses through which the importations have been made of goods that may be revised and dispatched at the capital. The operations of the custom-house at Mexico shall, therefore, concentrate to the accounts of the forwarding custom-houses, which they shall consider, each at its time, as its own receipts, those which may be verified by the custom house at Mexico by reason of the merchandise imported through them.

ART. 3. As an exception to the provisions of the foregoing article, the custom-house of Mexico shall keep a special account of the receipts had therein, for the duties caused by the sale of goods imported free of duty by the companies empowered so to do, or by reason of the dispatch of postal packages when the payment of such duties is made in the capital.

ART. 4. It is the exclusive power of the Treasury Department to authorize the dispatch of foreign merchandise which, owing to its delicate nature, would present inconveniences to their revision at the ports of frontiers; and the custom-houses of entry are only empowered to allow, without the express order of the Department, the dispatch at Mexico of goods destined to the Federal Government and for foreign diplomatic ministers and agents, as well as the baggage brought along by passengers and artistic companies.

ART. 5. Imported goods or merchandise entering Mexico's custom-house warehouses or courtyards from and after July 1 shall be subject to the following charges after the first fifteen days, whatever be the warehouse or courtyards of the custom-house into which they are introduced: Three cents daily for every 100 kilograms or fraction thereof during the first thirty days, and 5 cents daily after that until the expiration of six months. At the expiration of six months, the merchandise shall be sold at public auction within the prescriptions of the general custom-house ordinances, and even before that time if it is susceptible of deterioration.

ART. 6. The attributes, responsibilities, and obligations of the employees of the custom-house at Mexico shall be the same, in regard to their different functions, as those which employees of equal rank have in the other custom-houses of the Republic.

ART. 7. The observations which may be furnished by the appraising offices to the maritime and frontier custom-houses regarding errors in the classification, settlements, charges, and collection of duties made by Mexico's custom-house shall belong to the exclusive responsibility of the collector and accountant of said office.

[Translation of decree published in the Diario Oficial, May 12, 1896.]

IMPORTS CUSTOM-HOUSE IN THE CITY OF MEXICO—STAMP TAX ON FOREIGN GOODS.

ARTICLE 1. In place of the 5 per cent consumption duties and of the 2 per cent internal tax on foreign goods, from and after July 1 next, a stamp tax shall be levied and paid for said goods, on the basis of 7 per cent of the import duties, excluding the additional duties.

ART. 2. The maritime and frontier custom-houses shall receive the duties in cash only, and shall open a special account for the amounts received thereof, seeing that monthly remittances are made of such receipts to the proper stamp-tax office, which, in its turn, shall issue to the aforesaid a certificate in original and duplicate for the amount received, said receipt being issued from a stub book, which shall be made and kept for that purpose in the manner provided by the rules and regulations which will be issued for such effect.

ART. 3. For the due comparison of the special account referred to in the preceding article, the custom-houses shall remit to the general treasury, including all corresponding accounts, the original certificate duly countersigned by the same custom-house, the duplicate and copies of accounts remaining on their files.

ART. 4. The stamp tax on imports shall be levied on goods coming to the free zone, when the entire amount of import duties, and paid at the time of their importation.*

ART. 5. The articles of the general ordinances for the maritime and frontier custom houses, referring to the 2 per cent internal tax, as well as articles 96 to 102 of the general stamp law of the 25th of April, 1893, and all other dispositions relating thereto are abolished.

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*As given in the translation.

ART. 6. Goods transported in vessels that may land after 12 o'clock on the night of June 30 next in ports of the Republic, or that may be transported on railroads crossing the Mexican frontier after that hour and date, are subject to the import stamp tax established by this decree.

CONVERSION OF THE MEXICAN NATIONAL DEBT.

I have the honor to inclose herewith the decree of the President of Mexico relative to the conversion of the national debt of the Republic, of date October 31, 1895, the same having been clipped from the Diario Oficial. A translation of the same is also transmitted.

M. W. RANSOM,
Minister.

MEXICO, *November 5, 1895.*

[Translation.]

In virtue of the power granted to the Executive by the Congress of the union in the law of May 29, 1893, and considering that, after the extension of time granted by the decree of June 29 last of the term set forth in the decree of the 6th of September, 1894, for the presentation of all titles, credits, and claims against the public debt and its conversion into 3 per cent bonds of the consolidated debt and into 5 per cent bonds of the redeemable debt, said extension of time expiring to-day, it is convenient to fix forever the rights of the creditors of the nation and to establish definitely the obligations which this (nation) may recognize; that the existence of unusual titles having the character of deferred would leave the settlement of the public debt incomplete and present inconveniences which the present condition of the treasury permits of their settlement, offering payment in cash, under equitable reductions, as soon as the emission of the 3 per cent bonds of the consolidated debt is closed; that, in order to abolish completely the very few credits to which the floating debt of the nation is confined, it is advantageous to point out for the last time the manner of settling them, so that in future the budgets be without any other obligations in this regard than those of the interest and redemption of exterior loans and of the consolidated and redeemable debts, I have seen fit to decree the following:

ARTICLE 1. The securities charged to the national treasury which, by their not being presented for their conversion within the term which expires to-day, in accordance with the decree of June 29 last, would remain as belonging to the class of those deferred till the 1st of July, 1899, under the conditions expressed in article 16 of the decree of September 6, 1894, can, nevertheless, be converted or paid before the said date of July 1, 1899, provided they be expressly included in this decree and the interested parties subject themselves to the provisions contained in the following articles:

ART. 2. From the 1st of next November till the 1st of July, 1899, the Government may continue to admit for conversion the securities belonging to the first class, referred to in Section II of said article 16; but this conversion shall only be made through the reduction in said securities of 10 per cent on the capital and interest which may have been expressly agreed to, under the understanding that in no case will there be paid interest after the 1st of next November. The conversion will be made in 5 per cent bonds of the redeemable debt belonging to that series whose emission would be opened at the time of making the exchange, or by provisional certificates which will be exchanged in their due time for bonds of the following series, should those of the previous class be exhausted. These provisions shall in no wise affect in any manner the condition of the credits referred to in the first section of article 16 of the decree of September 6, 1894, which shall continue subject to the conditions of said section.

ART. 3. All credits of the second class originated before the 1st of July, 1894, which may not have heretofore prescribed or prescribe in future,* inclusive the certificates for balances regardless of dates, and the certificates issued by the extinguished board of directors of the public debt and to which credits and certificates reference is made in the third paragraph of said article 16, may be converted into 3 per cent bonds of the interior consolidated debt, whenever the interested parties solicit it, from the general treasury of the nation before the said 30th of June, 1896. The conversion shall be made through a reduction of 20 per cent on the nominal value of said credits and securities of the second class and without payment of interest.

ART. 4. After the 30th of June, 1896, the securities of which mention is made in the foregoing article shall not be convertible into the 3 per cent bonds; but they may be paid in cash, if the condition of the treasury allows it and if there exists an entry in the budget to which the charge can be made. The payment in cash may be made, at the highest, at the following figures: At 27 per cent of the nominal value of the securities during the fiscal year 1896–97, at 28 per cent during the fiscal year 1897–98, at 29 per cent during the fiscal year 1898–99, and at 30 per cent from the 1st of July, 1899, on, in accordance with the provisions in said section of article 16 of the said decree of September 6, 1894.

ART. 5. The corresponding balances of the calendar year 1894–95 shall be subject to the prescriptions contained in the two preceding articles, without any other difference than their conversion at par into 3 per cent bonds of the interior consolidated debt, if the petition be presented to the general treasury of the nation before the 30th of June, 1896.

ART. 6. The certificates which, in virtue of the decree of June 22, 1885, were issued by the extinguished board of directors of the public debt, and to which reference is made in Section IV of said article 16 of the decree of the 6th of September, 1894, can be admitted to the conversion of 3 per cent bonds until the 30th of June, 1896, in the proportion determined by Fraction F of article 3 of the law of the 27th of May, 1889. From the 1st of July, 1896, on, said certificates may be paid in cash, at a figure which in no case shall exceed 5 per cent of its nominal value.

ART. 7. The securities already issued belonging to the special series mentioned in article 6 of the decree of the 6th of September, 1894, can continue to be convertible into 5 per cent bonds of the interior redeemable debt pertaining to the series whose emission may not yet be exhausted, provided in each case that a previous petition be presented by the interested parties to the Secretary of the Treasury; but those securities shall suffer a discount of 5 per cent on their nominal value, and they will be cancelled according to the proportions already set forth by the Secretary of the Treasury for the conversion of the securities of like class, in accordance with the prescriptions of Article II of the said decree.

ART. 8. The liquidation spoken of in article 9 of the decree of June 29 ultimo can also continue to be convertible after the 30th of June, 1896, in the very terms prescribed in said article 9, making only a deduction of 10 per cent in the amount to be converted and liquidated in accordance with the rules existing at this date. After the 30th of said June, the holders shall only receive cash in payment of their securities and in the proportions set forth in article 4 of the present decree, taking as basis the nominal value of the 3 per cent bonds referred to in said article 9.

ART. 9. The emission of the 3 per cent bonds of the consolidated debt coming to a close on the 30th of June, 1896, the general treasury shall publish in the Diario Oficial, during the month of the following August, a detailed list, by numbers and series, of the bonds of the said debt issued since the year 1886 up to the said 30th of June, 1896; also, a list equally detailed of the bonds of said emission that may have been redeemed up to that time in accordance with the proper laws. During the same month of August, the treasury shall proceed, in the presence of the chief cashier of the treasury, to the count of all the bonds of the consolidated debt which may exist in print and which have not been issued and shall destroy them with all the due formalities, as prescribed by the Secretary of the Treasury.

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* As in the translation.

ART. 10. The conditions of the decrees of the 6th of September, 1894, June 29 of the present year, and the other dispositions relative thereto, which may not oppose the present decree, shall remain in full force.

Therefore, I order it printed, published, circulated, and that due compliance be had therewith.

Given at the palace of the Federal Executive, in Mexico, on the 31st of October, 1895.

PORFIRIO DIAZ.

NEW BANKING LAW OF MEXICO.

I inclose herewith a copy of the new banking law of Mexico, which will go into effect July 1, 1896.

THOS. T. CRITTENDEN,
Consul-General.

MEXICO, *June 6, 1896.*

NEW BANKING LAW OF MEXICO.

ARTICLE 1. The Chief Executive of the union is authorized to enact a general law, by which the concession, the establishment, and the operation of all banks of emission in the States and Territories of the Republic are to be governed. It will be based on the following rules:

(*a*) No concession will be granted, unless the concessionaires deposit bonds of the national public debt, whose nominal value, at par, must equal 20 per cent of the sum which the bank must have in cash with which to commence operations.

(*b*) The minimum amount of capital which will be allowed will be $500,000, half of which must be exhibited in cash before the bank can begin operations.

(*c*) The amount of actual cash on hand must never be less than one-half of the sum total of bills in circulation, together with sight deposits, or deposits made with a notice of three or a less number of days.

(*d*) No bank can be authorized to emit bills for an amount greater than three times its capital stock.

(*e*) The acceptance of these bills will be optional, and no bill of less than $5 will be issued.

(*f*) Exemptions or diminutions of taxes can only be granted to the first bank which is established in any State of the Republic or in any of the federal Territories. The other banks must pay all taxes established by the general laws, and, moreover, they will be subject to a special government tax of 2 per cent per year on the amount of their capital stock. Those now established, providing they subject themselves to the regulations of the general laws, will be considered as "first" banks, as regards the foregoing portion of this article.

(*g*) The banks which may be established in a State can not have, outside the limits of that State, branch houses for the exchange of bills without the special permission of the Executive, who will only grant it in case of very close bonds of commercial interest between the various States, and such branches can in no case be established in the City of Mexico or in the Federal District.

(*h*) The Federal Executive will have in each bank an interventor, whose duties will be stated, and who, in the revision of the annual balances, will have the same powers as the manager in anonymous companies.

(*i*) The banks will publish monthly a cash balance, in which will be stated the amounts due the bank, the amount of silver on hand, and the amount of bills in circulation, and the total amount of sight deposits, and the amount of notice deposits of three or a less number of days.

(*j*) The Executive will not grant any concession until after the enactment of this banking law, and such concession must be in conformity to it.

ART. 2. The Executive will also have power:

(*a*) To celebrate contracts with the National Bank of Mexico, by virtue of which and through an agreed-upon compensation, which shall be judged equitable, any incompatibility between said National Bank and the concessions granted to others under the general law may be adjusted.

(*b*) In order to celebrate contracts with the banks already in existence by virtue of special concessions, on the understanding that the State banks may enjoy the benefits of the general law, they will have to renounce the special concessions under which they were established.

(*c*) The authority conceded to the Executive by virtue of the present article will cease, as far as celebrating contracts for State banks are concerned, six months after the publishing of the general law, and for other banks will cease on the 15th of September next.

ART. 3. The provisions which must govern other institutions of credit can also be subjected to the same law, or to any other special law which the Executive may enact, or which may seem to him the most convenient.

ART. 4. In the sessional period immediately following the promulgation of the decree or decrees relative to this law, the Executive will give an account to Congress of the use which he shall have made of the faculties empowered upon him by the present law.

MANUFACTURE OF PULQUE IN MEXICO.

The special drinks of Mexico are pulque, mescal, and tequila. Properly speaking, pulque is the national drink. In order to supply information as to their character and manufacture, I send an article on mescal and tequila, taken from the Deutsche Zeitung von Mexico, the leading German paper of this city, whose editor, Prof. Adam E. Schulte, is a citizen of the United States, formerly a teacher in one of the public schools of New York City. It presents the salient points about mescal and tequila, to which I supplement my own report on pulque.

THE MESCAL PLANT—MESCAL AND TEQUILA.

Professor Schulte's article* is as follows:

The mescal plant, a near relative of the maguey, whose juice furnishes the celebrated pulque, differs in form from the latter in so far that its thick leaves possess a bluish tint and grow almost perpendicularly, while those of the pulque plant bend their leaves from above downward.

Both plants yield a revenue for the happy possessors thereof which can be called princely. And both grow in poor, dry soil exposed to the rays of the sun, and extract from the soil, the first the uncommonly high alcoholic contents contained in the flesh of the heart of it, similar to the saccharine matter of the sugar cane, and the latter a direct sweetish-sour juice which collects in the heart of the plant and is extracted from it by means of a very simple sucking apparatus, operated by the mouth of the peon; but not in such a manner that the sap enters the lips of the same, as is believed by so many, who object to drinking it on that account; from those siphons it is emptied into skins and brought to the hacienda and subjected to a certain process of fermentation lasting from two to three hours. Then the juice, now called pulque, is transported as quickly as possible to the places of consumption, for its drinkability does not last longer than a day, and it becomes then unsalable. As tastes differ, it is necessary that pulque be actually imbibed in order to be able to judge as to its flavor. * * * The best pulque resembles in looks thick green-fodder milk, and as it contains much sediment, it necessitates the shaking of the bottle before drinking it, that not too much of the former be swallowed at one gulp. For indigestion, weakness of stomach, aye, even for consumption, it is said that pulque acts very beneficially, and the numerous credible persons who have given their testimony in proof of this cause the fact to hardly admit of any doubt. Still less can its nutritive qualities be doubted when beholding the thousands and thousands who subsist almost entirely on pulque, tortillas, frijoles, and chile, who are robust and quite strong. Unfortunately, the excessive drinking of it, owing to its cheapness—a tumblerful costing but 1 cent—causes much drunkenness. Thus the sight of drunkards is one of most frequent occurrence; this the more so as pulquerias are disseminated as thickly as beer saloons in many foreign cities, and the quarrels resulting in consequence often cause in one day more than a hundred arrests, with most of these prisoners wounded. * * *

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* Portions of the article are omitted by the Department as nonessential.

Before the pulque plant offers its juice to humanity, it must have attained an age of from eight to eleven years, after which time its productiveness lasts until it yields from 125 to 160 gallons, sold at the hacienda itself at 8 cents per gallon, certainly a fine revenue for every plant. As the distance between them is 2½ meters on the average, we obtain from every hectare 100 meters square (2½ acres) 1,600 plants, which leave in twelve years a net profit of at least $15,000, an average of $1,250 per year, $500 per acre, and its cultivation offers no difficulties whatsoever. Young plants shoot up at all times, thus furnishing the plants necessary for future planting. And during the first years of its growth other crops can be raised between the diagonal lines in which they are planted, such as corn or beans. * * *

While making calculations, we may as well make such with regard to the genuine mescal plant, or perhaps more fitly called whisky plant, which, being planted nearer together, allows at least 2,500 to the hectare. This plant needs at least ten years before it can be cut. This is done by cutting the whole plant just below the heart; then the leaves are cut away from the latter about 2 inches from the core, they containing up to that distance the alcoholic sap; the heart is then split into two or more pieces, according to its size, and transported to the distillery on the backs of mules or donkeys. As a rule, three hearts give a carga of 300 pounds weight, and 4½ cargas yield 1 barrel of whisky of 48 gallons. The price of such is at present at the factory, $17. If we reckon $14 as the net cost price, we see that the 2,500 plants per hectare, divided by 13½, will produce 185 barrels, which, at $14, yield $2,900, an average of $260 per hectare, a little more than $100 per acre; and this plant thrives on the poorest soil, where no cereals would grow.

The separating of the fiber from the outer skin of the leaves has assumed great proportions and is destined to reach much greater ones in the near future. This fiber yields the so-called ixtle of commerce. It serves to make the common cords, also for textile fabrics. It is likewise known under the name of hennequen, and sold, according to quality, from 3½ cents a pound. Ixtle of an inferior quality, but of great strength, is also made of the pulque plant, but the produce of the mescal is much finer and will in course of time be made to yield a thread similar to linen, aye, approaching silk in texture.

If we now inform the reader that there have been mescal plants found whose hearts weighed 1,200 pounds, and where one plant produced 1 barrel of whisky, he may perhaps shake his head, never having seen such a plant. We can, however, assure him that we have tried in vain to lift the half of one but 1 foot from the ground, for the same weighed more than 300 pounds. Certainly such of the former weight are very, very rare, but those of above 300 pounds are nothing extra. Those plants are split into proportionate pieces, as a mule carries only 300 pounds and a donkey but 150 pounds, and this weight must be well adjusted, and proper pack saddles are of much importance to enable the loaded animals to walk safely over the horrible and steep roads they have to traverse; yet it often happens that a poor peon sees one of the two donkeys, forming his whole earthly possessions, slip on some perpendicular path and roll down the deep ravine, never more to rise. These accidents are generally the consequence of poor pack saddles.

Those who may think that the above calculations are too far fetched, need but be told that the other products of those estates, such as corn, beans, bananas, etc., are generally more than sufficient to pay the scanty wages of the laborers of the haciendas, this all the more, the latter being the best customers for a quick and most lucrative sale thereof. We approach nearest to truth when considering the above prices as net profit. * * *

We will now proceed and describe the most primitive way of manufacturing the spirit contained in the hearts of the mescal plants. We have already described the manner of cutting the plants and their conveyance to the distillery; we will now inform the reader how the latter looks. The first thing we see on entering the yard of the same, is a basin-like hole in the ground, about 4 feet deep, and having a diameter of from 10 to 15 feet. Upon the bottom, big piles of wood are laid, and upon these large, flat stones; then the wood is kindled, and when the stones are thoroughly heated, the agave hearts are placed upon them and remain there for about fourteen hours, for so long will the fire last. The hearts are covered with mats, sacks, and loose earth, and before this covering is removed, at least ten hours must elapse to give the plants sufficient time to become thoroughly steamed. Naturally, the time may be slightly affected by the smaller or greater size of the plants; thus, the superintendent in charge must possess sufficient experience, as otherwise the yield might show results far different from the ones expected. After the mass has cooled off, it is transferred to another basin, similarly constructed, but having in the middle, firmly imbedded, a massive stanchion, to which a revolving pole is attached, moving a heavy, round stone, while to the projecting end two oxen are yoked to set the whole in motion, to assist which a boy sits on the inner end of the pole, provided with a long staff having a sharp prong at the end, to encourage the oxen, should these animals come to a sudden halt when the ponderous stone bangs against a big pile of the mescals that have become stowed in front of it. By this process, the hearts are reduced to a pulp. A peon walks backward in front of the revolving pole with a rake, in order to spread the mass as evenly as can be. The stone is so adjusted that it may be shifted at will, either nearer to the center or the rim of it. That this basin is well cemented need hardly be mentioned. The meat of the mescal, after having undergone its vapor bath, is very sweet, with a strong alcoholic taste. Before eating much of it, one has enough.

It takes a few hours before the mass yields sap enough to remove the fluid into receptacles serving as fermentation store tanks. The reducing process is then continued with the remaining plants until the whole has become fit for use. After the juice has undergone the necessary fermentation (to assist which a naked peon jumps up and down in the vat and this likewise helps to extract all the better the separation of the still remaining fibres from the sap) the sap then percolates through the perforated bottom of the vat and is fit for the distilling apparatus. After all the juice that can be obtained by the above process has been obtained, the refuse is carried into other basins, covered with abundant water, and left to undergo another fermentation; this over, the fibrous mass is put under a press and the last drop of the spiritual fluid extracted. This press is of the most primitive construction, and the last fermentation lasts about one day. The fiber thus pressed is then dried and serves as fuel. When the reader is told that in such distilleries from 10 to 15 barrels are made daily, he can easily understand what profits may be gained; and to produce this quantity from six to nine persons are sufficient, whose daily wages amount to hardly $4 to $6 per day, whereas the production amounts to from $140 or $200 for the same time. Thus, it can easily be seen how well this manufacturing pays. Certainly a great quantity of wood is consumed in this operation, but the latter grows on the premises, and costs only wages for cutting and transportation to the factory, and the peons, who do this work, purchase all their necessities in the tienda (store) of the estate, with the exception of clothing.

The distilling apparatus is of the most primitive kind and akin to it are all the buildings on the premises, yet the spirit made in this style is preferred to that manufactured in factories having all the modern appliances, on account of its more agreeable taste. In the vernacular, this product is called vino (wine); the word mescal is rarely added to it; this latter name is, however, given it in commerce. In many places of the Republic it is called tequila, in honor of the town of that name, where most of it is made, say from 800 to 1,000 barrels per week. Tequila is situated about 18 leagues northwest of Guadalajara, the capital of the State of Jalisco. In former times, there were found in this latter place and its immediate vicinity dozens of such small factories, in which the vino was made as above described, but little by little one after the other began introducing modern machinery, until at the present time there are but four large factories in operation there; all the smaller ones had to succumb to modern improvements. In these factories, the mescals are placed in large drying ovens and heated therein. One of these ovens holds from 125 to 200 cargas (300 pounds) of the hearts. These remain therein from fourteen to twenty-four hours, according to the size, after which they are thoroughly steamed, and are then allowed to cool gradually after the steam has been turned off. The heating is done by means of steam pipes. The mescals are put in a cutting machine and cut into narrow strips. These are then subjected to the pressure of a powerful hydraulic press, whence the juice flows into reservoirs and is then ready for the distilling apparatus. The refuse is then treated as described above. The different boilers used in these factories are from 50 to 80 horsepower, and the appliances are of the most approved kind.

* * * As the different kinds of woods growing on these haciendas are of great heating power and extremely heavy, 20 cargas are sufficient for the use of one day; still, this amounts to 3 tons. In a factory of this kind, capable of producing from 25 to 30 barrels of spirit daily, about the same number of men are occupied, and their wages amount to hardly $12 or $15 daily, for most of these are laborers of the most common kind. The work they have to perform is not easy, and most of the time is incessant, for man has to hustle if wishing to keep up his pace with steam. In the vaults of these distilleries there are found some twenty or more large vats, some of gigantic size. * * *

The duties which these factories had to pay the Federal Government formerly were supposed to be in accordance with their product, but of late years the Government raises a lump sum from this source and distributes the same among different States, basing the contribution of each upon the results of former years, and leaving it to the individual States to collect their respective contribution from the separate distilleries. The sum raised by the Federal Government from this source is $500,000 annually. The largest factories of Tequila pay about $500 per month.

The country round about Tequila enjoys a beautiful climate. The town lies in a hollow, at the foot of the Cerro de Tequila, a high peak about 14,000 feet high and visible from Guadalajara and equal distances. On the remaining sides it is surrounded by high hills, with the exception of a narrow strip, where the Rio Grande de Santiago or the Lerma has cut its course through the steep mountains, showing banks of from 1,000 to 1,500 feet high. The country is rich in water, draining all the different mountains; thus the distilleries are never short of this element, so necessary for them. At the cheap price at which the vino is sold there—1 cent per glass—it is astonishing how little drunkenness one meets with, less than in other Mexican towns where this beverage is sold at prices more than three times as high, while in the factories themselves one never meets with a single case.

Perhaps many a reader may think, how comes it that in parts of the country where the mescal thrives, they pay no attention to the pulque plant, which would surely succeed there as well, and produce better pecuniary results. Such a reader has forgotten that the pulque must be consumed quickly, hence requires large cities in its immediate neighborhood, while our vino improves with time, and, owing to the low price of lands, still yields most satisfactory results.

As far as the alcoholic strength of the tequila is concerned, the same is about equal to that of common whisky, and likewise in its effects, if taken immoderately; however, in cases of poor appetite, a few thimblefuls act as an excellent tonic, and a small dose taken before going to bed has a quieting effect. Thus far, one can trust this brew; but we do not advise one to take more of it, and, in closing our recipes, we will add that he who takes no tequila at all may do as well.

PULQUE.

As the foregoing article deals more specifically with mescal and tequila, I will give the current ideas on pulque, which holds a higher position with the masses of this country than those more refined drinks. It is impossible to separate in thought the average Mexican and pulque. They must stand or fall together. No drink has a stronger hold on any nation than this on the Mexicans. By Mexicans, I mean all classes in Mexico, "native and to the manner born," other than the full-blooded Spaniards. Pulque is not the drink of the Spaniard or those of Spanish descent. They use champagne, claret, sherry, and other imported wines. Among the peons, men, women, and children drink it with the same freedom that water is used in the United States. Pulque and jealousy cause more wounds, bruises, and deaths in Mexico than all the wars had on its soil.

The pulque plant is indigenous to this part of Mexico, often growing wild on the uplands where for months and years at times no rain falls, and it is also largely cultivated in the most careful manner on the "llanos de Apam," a large area of plains lying in this State and the adjoining State of Hidalgo, about 60 miles from the City of Mexico.

In Spain, a plant is found, called "pita," somewhat akin to the pulque plant, or Mexican maguey, yet differing so much in its general features that it may be termed a distinct genus. The juices of the pita are unused in Spain, which fact plainly separates it from the family of plants in Mexico, whose flow has been used for centuries, almost supplanting the use of water in that part of the Republic where the plant is found.

The plants are transplanted when 2 or 3 years of age with much care, then cultivated in fields especially prepared for the purpose, in number, per acre, from 360 to 680 plants—when 8 by 8 feet, 680 plants to the acre; when 12 by 12 feet, 360. The number per acre is governed largely by the topography of the land and the judgment of the proprietor.

I forward with this article the chemical analysis of pulque as established by the board of health of Mexico. This analysis is made when taken from the plants, before the avarice of the retailer has made a change in the constituent elements of the juice for his own purpose and gain.

Nature requires the plant to be "milked," when the liquid is ready to flow, for the use of man, else the superfluity of juices will cause the growth of a large stem from the center of the plant, shooting up some 15 or 20 feet, putting out branches at the top, which blossom in a cluster of yellowish flowers. These branches are symmetrical, and the effect is like a lofty branched candlestick.

When the pulque is first extracted, before the process of fermentation sets in, it is sweet and scentless, and in this state is preferred by the new beginners of the drink. The old topers scorn the drink of that age, calling it "the baby's drink." The fermentation takes place in tubs built for the purpose, and to aid or expedite the process a little "madre pulque," or pulque mother, is added, which hastens the chemical change. At times its fermentation is retarded by a cold spell at the vats, which prevents its carriage into this city for a day or so. This city has a population of 350,000, it is said. At least 250,000 use pulque in preference to water or any other drink. It is said by some who have given thought to the matter, that 75,000 gallons of it are daily consumed in this city.

I inclose the following statement in regard to pulque recently furnished me by Hon. Sebastian Camacho, president of the ayuntimiento (ex-officio mayor) of this city:

> There is a daily introduction into the city of 700 barrels of pulque, each weighing 540 kilograms, making a total of 378,000 kilograms, a kilogram being 2½ pounds, making in the aggregate 831,600 pounds of pulque, which pay a duty on introduction at the rate of $2.99, amounting, daily, to $2,093, making a total of $763,945 a year.
>
> There are 789 "pulquerias," or pulque shops, in the City of Mexico, which pay, according to their locality, by squares, in the following manner: Thirty-four in the first square pay each, per month, $30; 147 in the second square pay each, per month, $16; 608 in the third square pay each, per month, $10.
>
> In the year 1895, the product of the municipal revenue from this drink amounted to $111,958.69.

The stock must be renewed daily, else it becomes dead and insipid, though it is said a certain powder has been discovered which will prolong its life through the second day. The liquid ferments rapidly and strongly, and the casks are left uncorked and the pigs' noses unmuzzled to prevent explosion.

The plant grows eight years before maturity and the liquid is extracted. In the growth of the plant, a central bulb is formed for its coming juices. This is scooped out, leaving a cavity or hole big enough to hold a few quarts. This cavity is made in the bottom and middle of the plant. The juice exudes into this cavity, and it is taken out daily by being sucked into a long-necked gourd, on the siphon principle, by the Indian laborers, and then poured into the tubs (taken to the fields) and then removed to the vats.

The outlay on each plant up to maturity is calculated generally at about $2, and the return is from $7 to $10, according to the size of the plant. Its producing life is about five months, and each plant is supposed to yield from 125 to 160 gallons of liquid within that time.

The immense fields within a radius of 75 miles of this city are planted and cultivated with great care and precision, as there is nothing grown in Mexico that pays better than pulque. Fields of it present an attractive appearance, laid off in almost geometrical regularity, extending almost beyond the vision, until the rows seem to concentrate in one plant and into one point at the extreme end. The plants are wholly independent of rain and storm, and are of a beautiful deep-green color. It is worth a trip to Mexico to see a pulque plantation, the preparation of the outflow for market, and its daily introduction into this city by special train loads in "barricas," or large tierces, and by "cuercos de pulque," or pigskins filled with the liquid.

It is said $1,000 a day is paid for freight on the special trains for transporting this liquid into this city. The tax on pulque is collected at the "garritas," or gates, before its admission to the city, and then the liquid is distributed in the barricas and pigskins on special carts held in readiness for that purpose. Nothing presents a more ridiculous appearance than one of those pig or hog skins containing about 20 gallons when being taken round and through the city, the legs sticking out full, to the toes, of the liquid, and even the tail presents its wonted curve when filled. This is a convenient mode of handling the pulque, as by simply removing a string from one of the feet the contents are soon drawn.

The culture of the maguey in the Republic of Mexico is unquestionably increasing very largely. It would be a mistake to draw the conclusion that arable land is therefore withdrawn from the cultivation of cereals and vegetables. Careful observation will convince everyone that the haciendado only plants the maguey in large areas where nothing else will grow. Nothing is more common than fringes of magueys like hedges around fields of wheat and corn, but where the whole expanse of land visible from the windows of a railroad coach is covered with magueys, it is because the soil is too poor to produce anything else; where the soil is good, but where the droughts occur regularly almost every year, the haciendado will sometimes, as if in despair, plant the maguey, which fears no frost and requires no water, but he is sure to return to cereals or to beans. This spring, the heat has been excessive on the central plateau in the State of Hidalgo, and the fields of wheat and beans are almost completely withered. There will be a resowing if the rains come early.

The principal regions for the cultivation of the maguey are the arid limestone chains of hills, and here, in many places, the hole for the insertion of the young plant is made with a sort of crowbar with a sharp point, used principally in the extraction of tepatate, the chief building material of the Mexican capital. It is usual to aid the young plant by inserting some good soil into the hole. These young plants are suckers which the mature maguey throws out on all sides, and which have to be removed before the heart is tapped for the sweet sap, which is the agua miel, or honey water, of the pulque.

The young plants are generally replanted at a distance of such proportions as heretofore mentioned. When the laborer draws the sweet sap with his rude siphon, made either of a gourd or a calabash and a hollow-horn tip, he discharges the contents into a pig or goat skin swinging at his back. The agua miel in this stage is like green water in appearance and taste. Soon carbonic acid is formed, and it becomes milky, and resembles in taste very good cider. The amount of carbonic acid contained is so great and the decomposition so incredibly rapid that in a few hours it would become vinegar if not closely watched. To prevent this, the pulque dulce, or sweet pulque, is poured into a tinnacal—an oxhide strapped to a square wooden frame, and capable of holding a considerable amount of the liquid. These tinnacals are of various sizes, to meet the emergencies of the situation. To the sweet pulque is added an equal proportion of milk, and then a slight dose of infusion of rennet. This is not enough to coagulate it, but sufficient to induce a slight amount of putrescence, as in cheese. The putrid odor and flavor of pulque as sold in the pulquerias is due to the rennet alone, for the belief that this is caused by the flavor of the pigskin, in which it is brought to market, is entirely without foundation.

From the tinnacal, it is poured into hogsheads by means of pigskins, and it is transferred to the barrels of the vendors from the hogsheads of the haciendado by means of the same skins. These barrels are, as before stated, large tierces or barricas. In both instances, the pulque remains in the skin barely more than a few seconds or minutes before the transfer. Throughout the Mediterranean region, where wine is kept for years and years in pigskins, the effect is only to give a slight putrescent aftertaste, so faint that only a connoisseur would perceive it. The rennet added in the tinnacal is the real cause of the putrid flavor and taste of pulque. This is removed in private families by means of a chemical substance of a perfectly inocuous character, and some housekeepers add white sugar and others the juice of oranges.

It is a regrettable fact that, in the pulque shops, this beverage is made intoxicating to a maddening degree upon some characters by the addition of marihuana. This marihuana is an extraction of what is known in the United States as the "jimson" weed and the *Datura stramonium* of our home drug stores. The effect upon the nerves is singular, and it almost forces men into physical struggles of which they are unconscious at the time. The Government has made and is making every effort to stop the sale of this noxious compound. * * * The number of deaths from fights in pulquerias is incredible. Those whom the poison does not madden it stupefies, and in every great festival, particularly when there are public displays of fireworks, the police have hundreds of persons to look after who are absolutely helpless from drinking drugged pulque. The vendors at times become so bold in the sale of this drink they declare they must sell it to those wanting it or lose their trade, regardless of the struggles of the Government to remove the evil consequences flowing from it.

The leaves of the pulque plant are long and pointed, with prickles along the edge. Sometimes, these leaves are very large, and the bunches of them springing from the common stock are enormous. The bruised leaves are made into a kind of paper, rather a tough, stiff, and hard paper, and they are also used in their natural state as a protecting thatch for the roofs of the common huts or houses occupied by the peons. A kind of thread is also made from the fibrous texture of the leaves, and a rough needle and pin is made from the thorn, and from the root a cheap and palatable food is made. It is not a matter of surprise, then, that the peon class almost worship and idolize the pulque plant. It is said that Xochitl, a Toltec woman, revealed to her race in the eleventh century the method of extracting from the pulque plant this drink, which has been ever since both the delight and curse of the Mexicans.

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THOS. T. CRITTENDEN,
Consul-General.

MEXICO, *April 2, 1896.*

[Translation.—Copied from the New Pharmacopia, Mexican, of the Pharmaceutical Society of Mexico, edition of 1894.]

CHEMICAL ANALYSIS OF PULQUE.

Pulque, Nentli, Mex.; Vinum agaves.—A liquid produced by the fermentation of juice (maguey juice).

C. Fis.—It is of a milky color, has a peculiar odor of its own (sui generis), a sweet and agreeable taste; its density, according to Rio de la Loza (L), is, in pulque from the fermenting vats, gathered in the evening, 1.102 when containing its own sediment, 1.002 when decanted, and 0.997 when filtered. The density of pulque taken from a vessel immediately after the arrival of the cargo is 0.9943. It is more or less a paralyzer, possessing an acid reaction which increases with time; when heated, it is rendered clear, forms a gummy foam, and allows the precipitation of the foreign matter which it contains.

Corn Q.—Rio de la Loza has found that pulque contains the following: Albuminoid substance, gum, and resin, 12.57; sugar, 8.23; salts soluble in water, 1.68; salts soluble in acids, 0.37; salts not soluble by the foregoing vehicles, 0.15; absolute alcohol (average from three experiments), 36.8; water and gaseous products, 940.2. The ashes contain, according to the same chemist (Mexican), potash, soda, lime, magnesia, alumina, chlorine, and carbonic, sulphuric, phosphoric, and silicic acids.

Boussingault has found in a liter of pulque the following: Absolute alcohol, 58.96; glycerin, 2.1; succinic acid, 1.4; carbonic acid, 0.61; free organic acid (malic?), 5.5; traces of butyric and acetic acid; gum, 0.5; ammonia, 0.05; potash, 0.85; lime, magnesia, and phosphoric acid, 2.5; nitrogenous matter (caceine?), 1.9; water and other matter, 901.83.

The composition and quality of pulque varies in accordance with the species of maguey plant from whence the juice used in its confection is obtained.

The fermentation of this drink is caused by a fungus, that, according to Dr. Barragáu, of Mexico, belongs to the cryptoccocus species.

A. Herrera has succeeded in preserving pulque, by the slow addition of 60 grams of disinfected alcohol to 1 liter of the liquor.

M. U.—Tonic, analeptic, stimulant, diffusible and diuretic.

ORANGE CROP OF MEXICO.

Owing to the injury to the orange trees in Florida from frost, the supply of oranges in the United States has been greatly diminished, causing the merchants to look to Mexico and elsewhere for the deficiency. About 400 carloads were shipped from Mexico to the United States last season. Since the injury to and destruction of the trees in Florida, the growers in Mexico are paying greater attention to production. Old trees and old orchards have been pruned, cultivated, and reclaimed and new orchards planted with more care.

Upon close investigations made by the agents of the various railway companies, the crop this season is estimated to be much larger than ever before. The railroads are gradually preparing for the shipment of at least 600 cars this season. It ordinarily takes eight or nine days, moderately fast freight, to send cars or trains to Chicago. It has been done in six days. The slow freights (due in part to the small number of cars going at any one time), the lack of fruit or refrigerator cars, and the inexperience of the packers here for long distance shipments, are the great drawbacks. Besides, the dealers here, on account of these facts, are unwilling to consign oranges. Therefore, experts from the United States are required to be sent here in order to properly superintend assorting—at least one expert for each gang of assorters and packers. In some districts, the oranges are "wormy," while in others, there are many "creased" oranges.

The orange season of Mexico is from the latter part of September to the 1st of December. This season fits in between Florida and California, thus making Mexico absolute in its season and with practically no competition in our markets. The orange of Mexico is as juicy and sweet as any orange grown. The question of getting orange boxes is also a serious one, as there are in reality no factories for making orange boxes in this country, and importation is almost universal.

THOS. T. CRITTENDEN,
Consul-General.

MEXICO, *May 29, 1896.*

ORANGES AND LEMONS IN SONORA.

The following report as to the production of oranges and lemons in this consular district (the State of Sonora, Mexico) was prepared in answer to interrogatories recently forwarded to me by a gentleman engaged extensively in the raising of those fruits in the State of California:

In the territory covered by this consular district, there are but very few lemon orchards and there have as yet been no lemons exported, to my knowledge. The average age of the orange orchards producing the oranges for export is about 15 years. The average crop of oranges is about 1,000 per tree, their weight being in the neighborhood of 750 pounds.

I am informed that but very few new orchards are now being planted.

The price which the growers usually receive for oranges or lemons is $1 in Mexican money, worth 50 to 55 per cent of United States currency, per box weighing about 75 pounds. I understand that the purchaser generally buys the fruit on the trees and picks, packs, and ships the same himself.

The orchards are plowed to destroy and keep out weeds, and where water is plentiful, they are irrigated eight or nine times throughout the year. The cost is hard to estimate. The trimming is done when the trees are small, so that each shall have a trunk 5 feet high from the ground before it is allowed to branch out at the top; afterwards, the top is thinned out a little in order to make room for air and sunshine.

Except where the orchard is a small one, it is, as a rule, cared for by hired labor. The small orchards are usually owned by the families occupying them.

Ordinary laborers, known in this country as "peons," are paid 50 cents (Mexican silver) per day.

Boxes are purchased in the United States and cost, laid down here, about 15 cents in United States currency.

The lemons produced in the State of Sonora are small, and are consequently not suitable for export. I learn that efforts are about to be made looking to the production of fruit of a fine quality, so that they may be exported.

The orange trees would probably be much more productive if a good system were adhered to in fertilizing, of which only a very little is now done.

An American gentleman said to me:

> I think the average age of orange orchards in Sonora is about 15 years. The most of them that furnish fruit for export are comparatively young. I know of several that were old orchards when I first came here, thirty-six years ago; they are yielding now, and must have been doing so for the last fifty or sixty years, their present crops being abundant ones.

The Sonora oranges are remarkably sweet and delicious.

FRANK W. ROBERTS,
Consul.

NOGALES, *April 23, 1896.*

LANGUAGE AS A FACTOR IN MEXICAN TRADE.

Considering the vast advantages of our geographical position, it is surprising how small is our trade with Mexico and the republics of Central and South America. These countries are our natural allies, our neighbors; their ports are much nearer to ours than to those of Europe, yet Europeans get there ahead of us and take from our very door the trade that should be ours. How? They know the language of the country and we do not. We do more business with the five millions of English-speaking people in Canada than with the thirty odd millions of Spanish-speaking people in South America. We can talk with the Canadians and they with us; trade follows language.

Take Mexico. Here, within a few hours' ride by rail from our frontier, are fourteen millions of people—one-half of the population of England; a people advancing marvelously in all the arts of civilization, a people who will soon require as necessities what are now luxuries, who will be housed, fed, and clad as well as any people of Europe. What a field this would be if worked with that skill and industry and tireless vigor which have made our domestic trade the wonder of the world. But it is not so worked. Ignorance of the language makes our usual business methods impossible. The Spanish tongue builds about the country for American trade a barrier bigger than the tariff.

To many of our merchants, Mexico appears to be as remote as China or Japan, and they strive for her trade by methods that might serve with countries of the Orient. They depend upon consuls for information, an effort which, to be of any avail, should have the full time and best energies of competent Spanish-speaking agents. Almost daily, the mail brings to my office letters containing circulars, which I am requested to distribute among Mexican merchants. Some of these are in English and are utterly useless; the rest, in Spanish, have even less effect than circulars at home.

Would any manufacturer of mining machinery send as agent to Cripple Creek, for instance, some Russian emigrant, whatever his fluency in his own tongue, who is ignorant of English? Yet American agents, and principals, too, come into Mexico from the United States knowing as little Spanish as they know Sanscrit. Good talkers, these, round home, no doubt; but once across the Rio Grande, the alert, keen, quick-witted American is stricken dumb and tongue-tied. He readily turns his American dollars into Mexican pesos, but he can not turn his English into Spanish. He goes through the land envying the graduate of an institute for the deaf. He may do some business—money and goods talk; but money and goods, be their merit ever so great nowadays, need the advocacy of a ready tongue. Be it known that in the ever-quickening competition in Mexican markets, circulars won't do, nor letters, nor the friendly offices of consuls. Mexican trade must be talked for, and it must be talked for in Spanish.

The influence of language on trade is well understood in America; nowhere else is it so powerfully exercised. Talking business is our national gift; surely this gift should not forsake us at our southern border. Ignorance of Spanish bars the way to intercourse with nearly half the people of our continent; knowledge of Spanish takes down that bar and leaves clear to American methods the whole field of American trade.

I would have Spanish part of the education of every young American. I would have it take the place in our schools and colleges now given to other foreign languages. And its study should be a matter of business; otherwise, there will be as little success with it as has followed the introduction into our schools of other foreign languages taught as mere accomplishments.

It is my observation that Americans have not the lingual faculty. A German or Frenchman will pick up more Spanish in a month than an American will in a year. I have met countrymen of mine who have lived most of their lives here without acquiring it, but I have never come across a foreigner who could not make a good showing within a fortnight. Spanish, however, is a beautiful language, musical and easy to learn. Its construction is simple, and what is of no small moment to the student, it is pronounced precisely as written. An hour a day for six months should give a fair command of it to any young person of average intelligence. This is less time than is needed for learning shorthand, and the day is not distant—in fact, I believe it is almost at hand—when there will be more demand and better wages for the young man or woman who can read, write, and speak Spanish than there will be for stenographers.

The astute statesmen now directing the affairs of Mexico are alive to the importance of the topic herein treated. They have to deal with a people who love their language and are tenacious of custom, yet seeing its importance to the nation's commerce, they have introduced the study of English into their schools and English is displacing French as the fashionable language at the capital. Mexico realizes that English and Spanish are the languages of America. Let the United States do likewise.

JOSEPH G. DONNELLY,
NUEVO LAREDO, *March 17, 1896.* *Consul-General.*

PERFILADO, OR DRAWN NEEDLEWORK, IN MEXICO.

What the black lace is to Malta and the laces of Antwerp and Brussels are to Belgium, the "perfilado," needle, or drawn, work is to Mexico. As in the former countries, the women and girls here are occupied with this intricate and delicate work. Matamoros is the principal city in Mexico where it is manufactured. Thousands of dollars in value of this work is exported annually to the United States. Agents in Atlanta, Washington, Philadelphia, New York, Boston, and other cities are engaged in selling perfilado. Some of it is very expensive, a year being required to make a single piece. Tablecloths, bedspreads, covers for tables, lounges, and chairs require the longest time and are most costly, bringing from $5 to $100 in Mexican money. "Panuellos," or handkerchiefs, are made either of silk or very fine linen, worth $10 to $25 each; then there are cheaper grades that can be bought for $1 and $2. The doilies are worked in dozens, each of a different design, from 4 to 8 inches square, and sell from $3 to $8 in Matamoros. There is a duty of 50 per cent imposed by the United States on this class of manufactures.

In Spanish, it is called perfilado; in English, drawn work. It is all done with needles—sometimes very fine needles and the finest spool thread (No. 100 Coates), made of long American and Egyptian cotton. For a long time, perfilado was made an industrial feature of the public schools—every girl learned to make it. In this way, the art of making this beautiful work was acquired and others were taught in the family until nearly every girl and woman in Matamoros could either make it or assist in its manufacture. If you walk along the narrow sidewalks in this historic old city, you will see through the grated bars girls and women bent over nearly double, with a frame in their laps, and a needle, working. It is hard, difficult work, from which the earnings are very small—often not 15 cents a day. The linen or silk is placed in a frame, the threads are drawn out one way, and with a needle the design is worked. The work is kept marvelously clean.

J. B. GORMAN,
MATAMOROS, *May 22, 1896.* *Consul.*

MORMON COLONISTS IN MEXICO.

In previous reports from this consulate, mention has been made of Mormon settlements in Mexico. I have tried to get some information about them, with rather meager results, but the little I learned I herewith report, as it may be of interest to the Department and the readers of CONSULAR REPORTS.

The Mormons have ten colonies in northern Mexico. Nine of them are in the State of Chihuahua and one is situated in the State of Sonora.

In the lower valleys, the colonists raise cattle, fruit, and grain; in the mountains, they attend to general farming, growing vegetables and grain, and raising sheep.

They are likewise largely engaged in the lumber trade, running four steam sawmills, besides doing a great deal of tanning, shoe and harness making, canning and drying fruit, and manufacturing furniture, tinware, and candy.

Their merchants, aside from the trade with their own people, do considerable business with the Mexicans, who flock to the Mormon stores from all directions, coming with their pack trains and their mule and ox teams from hundreds of miles to lay in provisions and other supplies.

One store at Colonia Juarez during the past year did over $60,000 worth of trade.

Many of the Mormon colonists are engaged in buying and selling Chihuahua and Sonora cattle, and one of their firms handled about $200,000 worth of live stock last year.

The principal markets for their produce are at present the mines of Corralitos and Sabinal. For their milch cows, canned goods, etc., they find ready sale in the city of Chihuahua.

The holdings of the Mormon colonists are in the finest portions of northern Mexico. The soil is very rich and productive, and with the advent of railroads, must become greatly enhanced in value. At present, they are from 125 to 200 miles from any railway.

There is, however, a fine opening for American trade in all lines. The goods brought to the colonies, so far, have been of Mexican and European manufacture, and were purchased of German, French, and English merchants in Leon, Chihuahua, and Paso del Norte, Mexico. But the Mormons, being nearly all Americans, would naturally prefer American goods. One of the Colonia Juarez settlers so expressed himself, saying it was the general opinion among his Mormon friends that American products were of superior quality. He added that their Mexican neighbors, also, would gladly buy American goods if they could get them.

LOUIS M. BUFORD,
Consul.

PASO DEL NORTE, *May 30, 1896.*

BEET SUGAR IN MEXICO.

Beet sugar is shipped from France and Germany to New Orleans and sold on board the Havre and Bremen ships to merchants here in Matamoros at 3¾ cents per pound, the freight from New Orleans to Matamoros, and all duties on same, amounting to 4¾ cents per pound. It is classed here as "azucar de terron" (cut loaf sugar), and is hard and white. It is cased in boxes of 120 pounds, carefully packed. How this sugar can pay such long hauls and undersell the same article of American refineries, is a question to be considered. American sugar ought to control this market, as United States goods do in almost every other line, except wines, cognac, etc., imported from Spain and France. The United States sends us brown sugar, but, being our neighbor, should also supply Mexico with the refined grades.

J. B. GORMAN,
Consul.

MATAMOROS, *May 22, 1896.*

NICARAGUA: NATURAL RESOURCES AND INDUSTRIAL CONDITIONS; OPPORTUNITIES FOR UNITED STATES TRADE; AMERICAN INTERESTS.

RESOURCES AND INDUSTRIAL CONDITIONS OF NICARAGUA.*

The many inquiries made by Americans regarding the town of San Juan del Norte, Nicaragua, evidence a widespread belief in the United States that the commencement of work on the Nicaragua Canal under circumstances indicating both intention and ability to push the project to completion would at once open a new and promising field for American laborers and American capitalists.

The construction of the canal on a line striking the Caribbean at or near San Juan del Norte would naturally give considerable importance to the place, but the dream of a Rio de Janeiro or a Buenos Ayres at the mouth of the San Juan River rests apparently on hope alone.

Not only is the total area of the five Central American States insignificant as compared with that of either Brazil or the Argentine Republic, but many portions of Central America will long continue to be commercially further from San Juan del Norte than from New Orleans and San Francisco.

The construction of railways, wagon roads, and bridges that would naturally follow the opening of the canal would eventually bring the leading towns and districts of Central America into close commercial intercourse, but while the canal would hasten the development of the resources of these countries, natural conditions indicate that the development would be gradual and so shaped as to favor the modest growth of many towns rather than the sudden growth of one great commercial and manufacturing city.

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*All prices and values mentioned in this report are expressed in United States currency.

The time may come when certain towns in Nicaragua situated from three to seven days nearer than New Orleans and New York to the markets of the East and to those of the western coast of South America may manufacture and send forth large quantities of sugars, liquors, ground coffees, canned and evaporated fruits, ice, lumber, furniture, leather, and even cotton goods. This, however, notwithstanding the alleged water-power advantages, is beyond the expectations of the most sanguine Nicaraguan, and it may be considered as fairly probable that either with or without the canal the manufactures of Nicaragua will not speedily assume large proportions.

Whole districts of rich lands remain unoccupied because of their inaccessibility. Mining and lumbering interests have not been properly developed for the same reason. Without highways, these lands, forests, and mines will remain practically worthless, and without the canal, there will be but few railways and wagon roads in Nicaragua in the near future. The establishment of a fair system of highways in the country would afford many opportunities, not perhaps for sudden fortunes, but for safe and profitable investments.

But whatever may be the future of Nicaragua, however fair a field it may be for the pursuits and operations of American agriculturists, tradesmen, and capitalists, there is but little to encourage the hope that the wages, comforts, and advantages of workingmen in the United States may be duplicated in Nicaragua. The native workingman believes that he was born to labor and he is satisfied with his lot. He has no household effects but rude chairs and cots, a blanket or two, an iron kettle or small stove for cooking purposes, a little cutlery, and a few pans and dishes. His fare is homely and uninviting, but he is accustomed to it, and from one end of the year to the other, he lives on plantains, frijoles, tortillas, and coffee. Meat and fish constitute but a small part of his diet. Wages are correspondingly low, and while there is no occasion in Central America to struggle for wood and coal, blankets, shoes, woolen garments, and something to put in the cellar for a long winter, northern laborers have too many other requirements to be able to live on Nicaraguan wages.

However superior American workmen may be in the skilled branches of labor, it is not at all certain, when it comes to common or unskilled labor, that Nicaraguan workingmen are their inferiors. The native laborer may be shiftless and be without ambition, but he is not lazy. The work he is accustomed to perform is not only well done, but is willingly done. He is physically strong, and with conditions and surroundings similar to those of his northern brother, would not be behind the latter in intelligence.

RATES OF WAGES.

As bearing upon the rates of wages in the vicinity of San Juan del Norte, a poster is inclosed calling for 2,000 laborers for the Panama Canal.* One dollar (silver) per day is guarantied. A Colombian dollar is worth just 40 cents (gold) in San Juan del Norte. In July last, a railway construction company in Jamaica offered laborers 50 cents a day.

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* Filed in Bureau of Statistics, Department of State.

In July, 1890, a paper entitled "The Nicaragua Canal" was read at the Fourth International Congress on Inland Navigation. The paper was written by Mr. A. G. Menocal, chief engineer of the Nicaragua Canal Construction Company, and, as published, contains the following passage in relation to the employment of laborers by the company:

> Another contingency which may cause a marked increase in the cost of the work is the physical inability of the imported workmen to perform the ordinary labor as compared with that accomplished in a more temperate climate. The laboring classes of Nicaragua, when under proper control, are capable of an activity and endurance under great fatigue and exposure to the elements scarcely equaled in any other country, and with no apparent injury to health; yet the same capabilities can not be expected in unacclimated foreigners accustomed to different conditions of life. It is believed that not less than 6,000 excellent laborers can be obtained from the Central American States, and that with a judicious management, all the help needed can be had from the Gulf States in this country, where the climatic conditions are in many respects similar to those prevailing over a large portion of the canal route. The number of skilled laborers employed will be comparatively small. On the west side of the lake, where the greater number of laborers will be employed, the climate is not excelled for salubrity by any other portion of Central America, and in that portion of the eastern section from Ochoa to Greytown, which is the only locality where trouble from climatic causes might be expected, the unexceptional good health enjoyed by the employees of the company during more than two years of constant exposure to the influence of the climate, while undergoing all kinds of hardships and privations, seems to be an evident demonstration that no apprehension need be entertained as to the climate.

What Mr. Menocal noted in regard to the activity and endurance of these laborers may be observed by any traveler in Nicaragua, if he does not entertain a prejudice which he is unwilling to dismiss.

ATTITUDE TOWARD FOREIGNERS.

Assertions that the Nicaraguans are hostile to foreign immigration are sometimes tainted with this prejudice. Native merchants may not look upon the growth of resident foreigners' trade with extreme complacency, and the Nicaraguan people may be unwilling to change many of their laws and customs and adopt those of other countries, but like jealousies are very apt to be nursed by tradesmen in other parts of the world, and our own institutions and laws are very dear to us.

The increase of duties in what was once known as the Mosquito Territory has been cited as an evidence of hostility and of an apparent desire to drive foreign merchants from the coast. The effect of the law has been to lessen the sale of imported goods. This naturally injured the trade of resident American, German, and British merchants, but whatever may be said regarding the expediency of the policy, the law is not a discriminative one, and there is no reasonable ground for the opinion that the increase was made for any but the legitimate purpose of national revenue. The wisdom of other laws may not be as apparent to foreigners as to Nicaraguans, but it is certain that the latter are fully alive to the importance of the canal and to the benefits its construction would shower upon their country.

LEGISLATION TO DEVELOP THE COUNTRY.

To make of Nicaragua all that its natural resources and advantages entitle it to, the leading men of the Republic realize that it is necessary to enact liberal immigration and colonization laws, and, but a short time since, the Government addressed circular letters to many foreigners in the country soliciting suggestions touching legislation and measures best calculated for the speedy development of the resources of Nicaragua.

The people of Nicaragua are naturally conservative, and it may take a long time to bring about desirable changes, but everything points to the conclusion that the representative men of the Republic are not blind to the necessity and wisdom of legislation insuring the permanency and inviolability of personal and property rights, the uniformity of taxation, the curtailment of official power, and the enlargement of the people's voice in the government of town and district municipalities.

CONDITIONS AT SAN JUAN DEL NORTE.

In the following description of San Juan del Norte, mention is made of certain local laws, the reading of which may suggest the thought that however appropriate they may be for the place as it is to-day, they are hardly adapted to the conditions of a growing city and the requirements of a "hustling" population.

What is known as the free port of San Juan del Norte formerly extended 3 miles to the east and 3 miles to the west from the central point of the city. The town itself is built on a spit of black sand at the eastern end of San Juan harbor. The sand spit is three-fourths of a mile long and has an area of about 150 acres. The distance from the harbor entrance to the center of the town is 6,000 feet. The limits of the free port were changed by the decree of November 18, 1889, and the central line now extends from the San Juan River, on the east, to a point 2,250 feet west of Victoria Plaza, the established center of the town.

The western boundary line of San Juan del Norte marks the eastern limit of the so-called city of America, which was incorporated in 1889 and formally dedicated January 1, 1890. Between the eastern edge of the new town and the canal, a distance of about a mile, there is a dense jungle, with no improvements but a horse-railway track and a rude wagon road, each leading from San Juan del Norte to the canal.

On the west bank of what is called the canal—a narrow cut less than a mile in length—are a few wooden buildings, one of which was the machine shop of the construction company. The company's main buildings stand on the east side of the cut. The canal and all of the company's buildings are within the limits of the town of America.

The last census was taken in January, 1895, and showed a population as follows: Nicaraguans, 1,010; Americans, 19; Germans, 8; French, 4; Cubans, 3; Italians, 6; English and Scotch, 20; Jamaica negroes, 220; other nationalities, 190; total, 1,480. Of those reported as Nicaraguans, fully 75 per cent are either negroes or half-breed Indians.

The Government supports three schools. A fourth school, having an attendance of from 15 to 25 pupils, is kept by a French lady. The public school has an average attendance of 30. Of the two other schools supported by the Government, one was established by the English Church and the other by two enterprising young women. The former has an attendance of 65 and the latter of 45 pupils.

There are two churches, the Roman Catholic and the Episcopal.

The town is without sidewalks, pavements, waterworks, sewers, gas, and electric lights. There is not a light-house on the eastern coast of Nicaragua, and the Government has never appropriated a dollar for the improvement of an Atlantic harbor.

There are but few buildings of two stories and none of greater height, and all are constructed of wood. Iron and shingle roofs are common, but many of the houses are palm thatched. Wooden shutters are more popular than glass windows. There are no chimneys, and, owing to the town being but little above sea level, there are no cellars.

A horse railway, owned by a private corporation, was built some years ago. It extends from the eastern side of San Juan del Norte to the canal, a distance of about 2 miles. As the town of America is practically abandoned, the road is operated merely to keep alive the franchise. The steam railway built by the canal company and extending from the town of America about 12 miles along the projected canal route has not been operated since the company abandoned work on the canal.

The telegraph line constructed by the canal company and afterward operated by the Government has been out of repair for months and will probably remain so until the resumption of work on the canal.

With the exception of a cart track to the canal and from thence running northerly a few miles along the beach, there are no wagon roads leading from the town, and all travel to and from the place is confined to either the sea or river.

There are but two steamship arrivals a month—a Royal Mail from Colon and Limon and a "tramp" from New York. Small schooners of from 3 to 20 tons burden are engaged in the coasting trade.

Mails from the United States come by way of New Orleans and Bluefields, and generally arrive twice a month, but intervals of from twenty to twenty-seven days are not infrequent. There are three sailings a month to and from Granada. The river steamers do not go above San Carlos, at which point transfer of freight and passengers is made to and from the small steamers employed on Lake Nicaragua.

Although, in the Vanderbilt days, passengers were seldom more than forty-eight hours in crossing from one ocean to the other, it now takes from three to five days to make the trip from San Juan del Norte to Granada and from thirteen to eighteen days to make the round trip

Between January and May, the river boats can not reach San Juan del Norte, owing to the low water in the San Juan below where the Colorado leaves it, and during this period the boats run to the mouth of the Colorado. During this dry season, the only steam tug in the harbor plies the Caribbean between the mouths of the Colorado and San Juan rivers. Meals are furnished without extra charge, but other accommodations on these river boats are very simple. Passengers get bare slats if they take staterooms and bare cots if they prefer to sleep in the cabin or on deck. They must carry their own pillows, sheets, blankets, mosquito bars, and crockery. The same rule obtains on the coast schooners.

There are no manufactures. A Chicago firm arranged some months ago to manufacture ice, but the scheme has been abandoned.

The temperature ranges from 78° to 95°. The nights are generally cool and the heat is seldom oppressive during the day, as the trade winds are almost constant. From February until June and during August and September, the average temperature is 84°. During other months the average is 80°.

The average annual rainfall is not less than 260 inches and there are not to exceed twenty dry days in the year. The so-called dry seasons are from the middle of January to the middle of May and the middle of September to the 1st of November. The rainfall is generally local, seldom extending toward the interior of the country more than 8 or 10 miles.

Yellow fever has never visited the town, and smallpox cases have been rare. Mild fevers are common, but are no more dangerous than "fever and ague" in the United States, and are usually brought on by undue exposure to the sun, rain, or night air.

The well water is bad and most of the people drink rain water.

During 1895, deaths occurred as follows: Malarial fever, 23; infantile fever, 7; dysentery, 5; phthisis, 5; whooping cough, 4; dropsy, 3; pneumonia, 3; dyspepsia, 3; worm fever, 2; snake bite, 2; gunshot wound, 2; drowning, 2; scrofula, 1; cancer, 1; blood vomit, 1; brain fever, 1; catarrh, 1; paralysis, 1; gangrene, 1.; total, 68.

The early breakfast is tabooed. In the morning, the industrious laborer fares as well as the banker, each being satisfied with bread and coffee. Breakfast is served at 11 and dinner between 5 and 6 o'clock. Laborers work from 7 till 11 in the forenoon. The afternoon work is from 12.30 to 5.30. All Government offices are closed between 11 and 2.

Wild, but very coarse, pasturage is abundant west of the canal. Cattle, however, are scarce. During the entire year not to exceed 3 or 4 tons of grass is cut; this is carted to town and sold in small bundles. Nothing is grown in town but small quantities of lemons, limes, oranges, breadfruit, cocoanuts, and red peppers. Cucumbers, radishes, tomatoes, and pumpkins have occasionally been grown, but it is said that ants and other insects make it almost impossible to raise anything in gardens.

The Indian River empties into the Caribbean about 6 miles above San Juan del Norte. A few acres of land have been cleared 8 miles up the river, and between there and a point 6 miles above, are a few other small clearings upon which are grown plantains, bananas, and different varieties of yams. A few miles up the San Juan, there is also an occasional acre patch of plantains and bananas.

When harvest or digging time comes, the settler canoes his little crop to San Juan del Norte, a lagoon or series of lagoons between the two rivers enabling the Indian River settler to do so. The small quantities thus grown are barely sufficient for the local market. Cabbages are imported from Costa Rica and potatoes from Costa Rica and the United States.

The much-talked-of rights of the inhabitants of San Juan del Norte under the treaty of January 8, 1860, between Nicaragua and Great Britain are simply that San Juan del Norte shall be a free port under the sovereign authority of Nicaragua and that its inhabitants shall enjoy religious freedom and the right of trial by jury. Whatever other peculiar privileges they may enjoy have been granted them by the Government of Nicaragua independently of any treaty. Regulations for the port and town were adopted by Nicaragua February 20, 1861, and this special code, as amended from time to time, is still in force. The instrument may be called the city charter. Like any other town charter, it is subject to the control of the body granting it, and although the statement may be challenged by certain persons domiciled in the place, the general laws of the Republic control in regard to matters concerning which the charter is silent.

The regulations provide that the officers of the town shall be a governor intendant, justice of the peace, city clerk, health officer, and police agent. The governor intendant, justice of the peace, and city clerk are each appointed by the Government for a term of two years; the health officer and police agent are appointed by the governor intendant. There are neither aldermen, trustees, nor commissioners, all the powers of government being confided in the person holding the office of governor intendant.

Popular elections are never held and the only voice the inhabitants have in the conduct of municipal affairs is such as may be raised by either petition or protest. Fortunately, with but one or two exceptions, the governors sent to San Juan del Norte have been fair-minded men, and the inhabitants generally agree that the Government has invariably manifested a disposition to give to the people a clean, capable, and popular administration of municipal affairs.

The governor intendant is given supervisory control of local tribunals and judges and is authorized "to prevent individuals subject to his jurisdiction from residing outside of the city limits if not fully satisfied that they are persons of well-known honesty and able to provide their subsistence." He may cause such new public buildings to be constructed and such repairs and public improvements to be made as shall appear to be necessary; he may cause all lots to be fenced, and if, in his judgment, any house "menaces ruin," he may order the owner to rebuild it within such time as he shall determine; he is authorized to make reasonable provisions looking toward the supply of pure water and unadulterated food, and is charged with the duty of "seeing that sales and other contracts are carried out with the greatest liberty, especially in regard to provisions, when there is scarcity thereof." Primary schools may be established by him "by means of taxes or by subsidy given by the householders." The collection of the city and port rents and the making of all disbursements are confided to him. The regulations provide that he shall be "punctually respected and obeyed and that he may impose and demand a fine not exceeding $25 in the case of each person who either disobeys him or fails to duly respect him." In case he shall deem it advisable to adopt any measure or measures not expressly mentioned in the regulations, he may do so if not in conflict with the constitution.

The regulations provide that the justice of the peace shall "try civil and criminal cases in the manner determined." All judgments are final, the regulations providing that "the jury shall try the action and its verdict be based on the evidence, and be without appeal." Either the governor intendant or justice of the peace may charge the jury, article 18 reading as follows: "The governor intendant or justice of the peace shall make an exposition of the points litigated, withdrawing afterwards that the jury may deliberate."

The regulations provide for the trial of criminal cases by jury and of civil cases by jury and by arbitration. Civil cases are tried by five jurors, the judgment in each case being entered in accordance with the verdict of the majority of the jurors. Seven jurors sit in criminal cases, and the verdict must be unanimous. A list of jurors is made every six months by the governor intendant. A juror must be "in the exercise of civil and political rights," be over 25 years of age, have resided in the place at least one year, and possess real estate of not less value than $100. If the jurors fail to reach a verdict within twelve hours they must be discharged. Jurors are not entitled to fees. Fees are not paid to witnesses in criminal cases.

The most important duties of the police agent are to "watch over the security of the inhabitants and their properties, prosecute the malefactors and scandalous, and with particular care enforce the laws regarding order, ornamentation, and salubrity, according to orders received from the governor intendant." He is required also to "see that minors attend school, that they shall not play at billiards or other prohibited games, and to keep a record of foreigners who come to the place with intention of remaining more than a month."

All shops are required to be closed at 10 o'clock p. m., and billiards, pool, cards, and other games are not permitted in public places before 4 o'clock in the afternoon. These laws are strictly enforced. There are no Sunday laws.

The annual expenses of the town formerly averaged about $24,000, but were $33,819.65 in 1895 and $32,131.29 the year before. This includes the expenses of the post and telegraph offices. In 1895, the salaries and expenses of the officials, clerks, teachers, and police amounted to $27,501.60. Public buildings were repaired at a cost of $556, but no other public improvements were made, except the cutting of grass, reedy vegetation, and jungle growths in the plazas and cemeteries and along the banks of the creek. This work is naturally expensive, as everything is cut with machetes.

To help meet the municipal expenses, all fines and official fees and the proceeds of sales of sealed or stamped paper and of licenses issued for dances, entertainments, auctions, etc., are turned into the city treasury. Slaughter-houses and markets are required to pay $2.50 per head for animals slaughtered, which fees also go to the public treasury.

Provision is made for the separate appraisement of lands and houses by the governor intendant and two inhabitants, and for a tax of one-half of 1 per cent of such valuation, to be paid January 1 and July 1 in each year, but although buildings are assessed at something like their real value, the land valuations are nominal and the taxes comparatively nothing. The assessed valuation of all the land and buildings in the town amounted in 1895 to less than $125,000 (gold).

About the 1st of May and the 1st of November in each year, the governor intendant submits to the President of the Republic a budget showing the amount of moneys on hand, the probable amounts to be received during the half year by way of licenses, official fees, and taxes on lands and buildings, and his estimate of the amount which, over and above such moneys on hand and probable receipts, will be required to defray the municipal expenses during the half year in question. Either the full amount of such deficiency or such part thereof as the Government may consider sufficient is then authorized by national decree to be collected from the San Juan del Norte merchants and shopkeepers. This is known as the commercial tax, but is sometimes called the contribution tax. Other than those mentioned, neither real nor personal taxes are levied. There is no poll tax.

Immediately preceding the 1st of July and 1st of January in each year, the commercial tax being payable on such days, the governor intendant appoints a committee of three inhabitants to make apportionment of such tax. This committee is called the "Junta de la contribucion." In making the semiannual apportionment, a list is first prepared by the committee showing the names of all commission merchants, keepers of wine or liquor shops (cantinas), and shopkeepers not importers, and the amount of commercial tax to be paid by each. Shopkeepers are assessed $15 and liquor dealers $25 each. Each commission merchant is required to pay 5 per cent on the total amount of his commissions during the six months immediately preceding the apportionment.

In 1895, there were but two commission merchants and three shopkeepers. There is not a store in town, except the two drug stores, in which wines, beers, and liquors are not sold by the drink, and the number of cantinas is twenty-six.

The aggregate of the assessments against commission merchants and the keepers of shops and cantinas is comparatively small, and the payment of at least nine-tenths of the commercial tax falls upon the importers. The amount to be paid by each importer is ascertained and determined by the proportionate value of his imports during the six months then ending. In fixing such value, reference is had to the proper invoices and manifests. There were eleven importers in 1895, and the commercial tax for the year amounted to $25,549.81. Of the importers, but four import extensively.

The commercial tax for the six months ending June 30, 1896, was fixed at $10,000, of which the importers paid $9,095. Of this amount, all but $690 was paid by the four leading importers.

In 1895, the municipal receipts and expenditures were as follows, in local money, $1 of which is worth but 50 cents in United States currency

Receipts.

Commercial tax	$25,549.81
Land and house taxes	2,468.61
Fines	2,206.40
Slaughterhouse, etc	1,429.65
Post-office	1,392.59
Telegraph	548.51
Balls and entertainments	197.83
Sealed paper	26.25
Total	33,819.65

Expenditures.

Salaries and expenses:	
Officials, clerks, etc	$12,723.50
Police of San Juan del Norte	4,857.33
Police of America	2,049.88
School teachers	2,735.60
Post-office	1,787.94
Telegraph office	1,943.30
Oil and tenders of street lamps	1,360.00
Labor in public cemeteries	945.00
Labor in creek channels	597.50
Repairs to public buildings	556.00
Feeding prisoners	195.60
Transportation of paupers	17.09
Official receptions	220.50
Not itemized	3,830.41
Total	33,819.65

WAGES AND COST OF LIVING IN NICARAGUA.

House rents run from $2 to $20 (gold) per month. As in England, the house servants are unwilling to do general work; the cook will do nothing outside of the kitchen, the chambermaid will not wait on table, and the laundress would quit if asked to clean a window. Carib boys are generally employed as table waiters.

The tables given below show the rates of wages paid and the retail prices of necessaries in each of two towns on the Atlantic coast (Bluefields and San Juan del Norte) and in the interior city of Granada. For convenience, the rates and prices are given in United States money.

Rates of wages.

Employment.	Period.	San Juan del Norte.	Bluefields.	Granada.
Bakers	Day	$0.75	$1.50	$0.50
Blacksmiths	do	1.00	1.25	.50
Bookkeepers	Month	$40.00 to 100.00	$50.00 to 125.00	$15.00 to 40.00
Bricklayers	Day	....	1.50	.75
Cabinetmakers	do	1.50	1.75	1.00
Carpenters	do	1.50	1.75	.75
Clerks:				
Dry goods	Month	10.00 to 50.00	25.00 to 75.00	15.00 to 20.00
Grocery	do	10.00 to 40.00	25.00 to 40.00	12.00 to 20.00
Miscellaneous	do	10.00 to 30.00	20.00 to 55.00	8.00 to 15.00
Cooks:*				
Men	do	10.00 to 25.00	15.00 to 40.00	10.00 to 20.00
Women	do	6.00 to 10.00	6.00 to 10.00	4.00 to 10.00
Dressmakers*	Day	.50	1.00	.30 to .55
Engineers (stationary engines)	Month	....	25.00	15.00
Gardeners	do	18.00	....	7.50
Governesses*	do	6.00 to 10.00	15.00 to 25.00	5.00 to 7.50
Housekeepers*	do	8.00 to 9.00	10.00	7.50
House servants*	do	2.50 to 6.00	5.00 to 7.00	3.00 to 5.00
Jewelers	Day	....	1.50	.75
Laborers:				
Agricultural†	Month	15.00 to 17.50	17.50 to 20.00	12.50 to 15.00
Miscellaneous	Day	.50 to .75	1.00 to 1.25	.25 to .50
Laundresses	do	.75	1.25	....
Machinists	do	1.75	2.50	.75
Milliners	do	....	1.50	....
Music teachers	Hour	....	.50	.25
Pharmacists	Month	....	....	15.00
Printers	Day	....	2.00	.60
Railway employees:				
Brakemen	Month	....	....	22.50
Conductors	do	....	....	30.00
Engineers	do	....	....	45.00
Firemen	do	....	....	22.50
Station masters	do	....	....	15.00 to 35.00
School teachers	do	15.00 to 25.00	15.00 to 35.00	15.00 to 40.00
Schooners:				
Captains*	do	25.00	25.00	....
Mates*	do	15.00	15.00	....
Seamen*	do	10.00	10.00	....
Seamstresses*	Day	.40	.75	.20 to .40
Shoemakers	do	.75	1.50	.60
Steamboats:				
Captains*	Month	42.50 to 50.00	62.50	42.50 to 50.00
Deckhands*	do	10.00	25.00	10.00
Engineers*	do	30.00	45.00	30.00
Firemen*	do	15.00	25.00	15.00
Mates*	do	17.50	25.00 to 30.00	17.50
Pursers*	do	25.00	37.50	25.00
Stevedores	do	25.00 to 100.00	50.00 to 62.50	25.00 to 40.00
Stone masons	Day	....	2.50	1.00
Tailors	do	.75	1.50	.55
Teamsters	do	.75	1.00	.50
Telegraphers	Month	25.00	....	15.00
Tinsmiths	Day	....	1.50	.50
Wagon makers	do	....	....	.75

* With board. † With board, $8 to $10.

Retail prices of provisions,

Articles.	Quantity.	Price.		
		San Juan del Norte.	Bluefields.	Granada.
Apricots	Can	$0.25	$0.25	$0.40 to $0.50
Bacon	Pound	.30	.18½	.50
Baking powder	do	.50	.50	.75
Butter:				
Fresh	do	.30	.25	.30
Canned	do	.50	.50	.60
Calico	Yard	$0.07½ to .15	$0.06¼ to .10	.05 to .15
Candles:				
Sperm	Pound	.20	.15	...
Tallow	do	.20	.15	.22½
Cheese	do	.22½	.20	.40 to .50
Chocolate	do	.50	.50	.50
Coal	Ton	...	12.50	...
Codfish	Pound	.12½	.12½	.30
Coffee	do	.22½	.25	.20
Corn	Can	.17½	.12½	.30
Corn meal	Pound	.05	.05	...
Cornstarch	do	.12½	.10	.25
Crackers:				
Soda	do	.10	.12½	.20
Sweet	do	...	.20	...
Dress goods (woolen)	Yard	.30 to .75	.22½ to .50	.15 to .50
Eggs	Dozen	.40	.37½	...
Fish (fresh)	Pound	.05	.05	.10
Flannel	Yard	.30 to .37½	.25 to .32½	.50 to .75
Flour (wheat)	Half barrel.	4.25	3.12½	3.40
Frijoles	Pound	.05 to .07½	.04 to .05	.04
Ham	do	.25	.12½ to .17½	.40 to .60
Kerosene	Gallon	.25	.20	.45
Lard	Pound	.15	.10	.21
Meats:				
Beef—				
Corned	do	...	.15	...
Fresh	do	.10	.10	.05
Chickens	Each	.50	.37½	.25
Mutton	Pound	...	.15	...
Pork	do	.15	.12½	.12½
Salt pork	do	...	.10	...
Milk:				
Fresh	Quart	.10	.10	...
Condensed	Can	.17½	.12½	.40
Highland cream	do	...	.20	.40
Mince-meat	Package	...	.12½	...
Molasses	Gallon	...	1.00	...
Muslin	Yard	.07½ to .15	.07½ to .12½	.05 to .20
Oatmeal	Pound	.12½	.10	.10
Peaches	Can	.15 to .30	.12½ to .25	.40 to .50
Pears	do	.25	.25	.40 to .50
Pease	do	.15	.15	.30
Pepper	Pound	.20	.22½	.25
Plantains	Dozen	.05	.05	...
Potatoes	Pound	.07½	.07½	.04
Quaker oats	do	...	...	.10
Raisins	do	.25	.20	.25
Rice	do	.05	.03¼ to .05	.04 to .05
Rubbers	Pair	.62½	.50 to .62½	1.00
Salt	Pound	.03¼	.02½	.02

Retail prices of provisions, etc.—Continued.

Articles.	Quantity.	Price.		
		San Juan del Norte.	Bluefields.	Granada.
Satinet	Yard	$0.25 to $0.30	$0.20 to $0.25	$0.07½ to $0.20
Shirting:				
Bleached	do	.12½ to .20	.12½	.05 to .12½
Unbleached	do	.12½ to .20	.12½	.05 to .10
Sheeting:				
Bleached	do	.10 to .15	.10 to .12½	.20 to .35
Unbleached	do	.10 to .12½	.10	.10 to .20
Shirts:				
Cotton	Each	.50 to 1.00	.50 to .87½	.75 to 1.50
Woolen	do	1.00 to 2.50	.75 to 2.00	1.00 to 2.50
Shoes:				
Children's (common)	Pair	1.50	1.00 to 1.25	1.00 to 2.00
Men's—				
Common	do	1.50 to 2.00	1.25 to 1.75	2.00 to 2.50
Fine	do	2.75 to 4.00	2.50 to 3.50	2.00 to 4.00
Women's—				
Common	do	1.75 to 2.00	1.50 to 1.62½	2.00
Fine	do	2.50 to 3.00	2.00 to 2.37½	2.00 to 4.00
Soap (common)	Pound	.07	.07¼	.05
Starch	do	.10	.07½	....
String beans	Can	.15	.15	.30
Succotash	do	....	.15	.30
Sugar:				
Brown	Pound	.07½	.07½	.08
Granulated	do	.10	.10	....
Loaf	do	.10	.10	....
Sirup:				
Native	Gallon	....	.50	....
Imported	do	....	1.00	....
Tea	Pound	.62½	.50	.50 to 1.00
Ticking	Yard	.15	.12½	.15
Tomatoes	Can	.15	.12½ to .15	....
Wood	Cord	4.00	2.25	....
Yams	Pound	.05	.05	....

Mr. Samuel Weil, an American merchant in Bluefields, and Mr. Eugene Southworth, an American merchant in Granada, respectively furnished the figures appearing in the Bluefields and Granada columns of wages and prices.

PUBLIC RECORDS IN SAN JUAN DEL NORTE.

Records have been made and preserved of San Juan del Norte deeds and mortgages since 1861, but the records kept prior to that time are missing. A set of abstracts has never been made. Under the treaty of Managua, the Nicaraguan and British commissioners confirmed about one hundred and forty-five grants of land made in the name of the Mosquito Indians between 1848 and 1859. Copies of such grants were entered in two books, one of which is in the Government building at San Juan del Norte and the other in the Foreign Office in London.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *February 12, 1896.*

MARKET FOR UNITED STATES GOODS IN NICARAGUA.*

A letter has just been received here from a firm in Rochester, N. Y., in which mention is made of the sale of their boots and shoes in England. If the Rochester house can sell boots and shoes in England, they can sell them in Nicaragua. They may not be able to sell the same kind, but they can sell boots and shoes. Michigan lumbermen and Pennsylvania miners wear shoes and pay for them. Their money is just as good as the money that Boston and New York people pay for shoes of finer quality.

It is not uncommon for an American manufacturer to send fine buggies to one section of the United States and buckboards to another. The buckboards are sent to districts where buckboards are used. Men that wear derby hats manufacture cowboy hats for cowboy districts. If the manager of a St. Louis house takes it into his head to invade Chicago territory, he sends his drummers out with samples of the grades and styles popular in that territory.

In the matter of credits, the large bills in each section are made to mature at the end of the harvest. The crop may be wheat in one section; cotton in another; corn, strawberries, peaches, apples, or sugar in others; while in some sections the bills may be payable at the close of the log-drive season.

It has been said by one of our consuls in Mexico that although our wholesale merchants from Boston to San Francisco are familiar with the requirements, styles, customs, and resources of the smallest hamlet in Texas, scarcely an American merchant or manufacturer has accurate knowledge of either the people or the country 2 miles south of the Rio Grande. However true the observation may have been at the time, the statement is too sweeping to be made again. Within the past two years an American salesman is said to have sold, inside of nine months, $1,000,000 worth of American goods in Mexico alone. He sold on commission and took orders to be filled by many different houses.

But while commercial relations between our country and most of our southern neighbors are closer now than when our consul in Mexico made the statement mentioned, it remains true that our merchants and manufacturers, ambitious to sell their wares and products in Spanish America, have, up to this time, been indifferent respecting many features of trade in the new fields which they would not dream of neglecting if presented in the home markets.

They consult Massachusetts styles and preferences, but also aim to meet the requirements of the people in every other section of the United States.

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*Unless where otherwise stated, all prices and values given in this report are expressed in United States currency.

If Idaho or Montana merchants complain that their goods are better boxed or baled in St. Louis than in Chicago, the Chicago merchants, instead of ignoring the complaints, will go their St. Louis competitors one or two better. Boston, New York, and Philadelphia houses may be crowded out occasionally by Chicago, Cincinnati, Detroit, or St. Louis rivals, but whether he lives East, West, or South, the American merchant never neglects to canvass certain territory simply because its trade has long been monopolized by the wholesalers and manufacturers of other cities.

The people of these southern countries have styles of their own. They are partial to certain brands of goods and to certain patterns, colors, widths, and lengths of dress materials.

Domestic manufactures in most of the countries are of small proportions, and all importations, whether from the United States or from Europe, are long in transit. Many of the harbor entrances are choked with sand, and all goods must be lightered from 1 to 3 miles. At many points, the rains are heavy and long continued, the seas run high on the bars, and in some harbors the lighters are nothing but open scows or boats. Railways and wagon roads are not as common as in the United States, and it not infrequently happens that packages are weeks in reaching their ultimate destination, the only conveyances being small steamers, canoes, carts, or little pack mules.

It is not unreasonable to ask that goods destined for such places should be packed a little better than goods that are shipped from St. Louis to Kansas City. As our consuls have written, time and time again, the English, French, and German merchants never fail to pack or bale goods as directed by their Central and South American customers.

Our consuls, too, have frequently asked our merchants and manufacturers to consider that while the American retail merchant generally receives the goods purchased by him on sixty or ninety days' credit within a very few days after the purchase, the merchants in many parts of Central and South America do not receive their goods for weeks after their shipment. For this reason, our merchants have repeatedly been advised to give as favorable credits as are given by England, France, and Germany.

But the great obstacle in the way of American success in these countries is that the Americans do not try to succeed as they do at home. Local styles and preferences might be disregarded, goods be packed as they are at home, and credits for long periods be refused, and we would still be able to sell more goods than we do if we did not take it for granted that other nations could undersell us. Within a few years, bright and competent salesmen, representing American houses, have canvassed Mexico, Brazil, the Argentine Republic, and other parts of Spanish America, but there has not been the American competition for the trade of these countries that the trade as a whole deserves. The American houses doing business with merchants in Spanish America are comparatively few. There has been smart competition in picking up coffee and other southern products for the American market, but we have not as yet made even a fair start in the sale of

American goods. With a few exceptions, the American goods sold in these markets have, to use a drummer's expression, sold themselves. They have been bought because they are cheaper than even the Germans can sell them. Even in the matter of the purchase of coffee and other southern productions, we are hampered by the scarcity of exchange, and so long as commercial paper remains scarce and these people continue to purchase European goods, so long will a certain quantity of the products of Spanish America be shipped to Europe.

Instead of our factories sending out their own salesmen, as is generally done at home, the sale of their goods and manufactures in foreign countries is too frequently either confided to export agents or effected by commission merchants acting on their "own hook." In many cases, one of these export agents represents many different mills and factories and has the exclusive charge of the sales in foreign countries of different varieties of goods and manufactures. His commissions and the extra charges he "claps on" gives him an annual income of from $5,000 to $25,000 a year. He is satisfied with that. The manufacturers have apparently been satisfied with it. It is true that some of our manufacturers at home arrange with one or two houses to handle all their products, but the time has never been when they would renew contracts with men or houses that had failed so signally to sell and popularize such manufactures as these export agents have failed in building up an American trade in Spanish America.

The United States is a good market for goods of all kinds, but the success at home of the average American merchant has always been due, and in the future will be due, principally to his push and energy. American wholesalers who expect to work up trade in Spanish America should not depart entirely from the methods they have employed at home.

In the United States, it seldom happens that from four to eight traveling salesmen do not dine together in a railway town of 1,500 population. During the past year, but two American salesmen have been in San Juan del Norte. Our people should send out more salesmen, and each great house should have its own salesmen and representatives. Our people should not expect to make money the "very first clip," but should send out careful, conservative, and well-paid agents—men who will study and note all that pertains to the sale of their employers' goods, and at the same time give due attention to the commercial laws and customs of the different countries, and to the pecuniary responsibility of local merchants.

The temptation to report the sale of $100,000 worth of goods in a single trip is not apt to be as strong in the case of a salaried salesman as it is in the case of one who sells on commission. This temptation, perhaps, is, the world over, strong enough at times, but in the United States the reports furnished by commercial agencies, while not always reliable, are yet well calculated for the keeping of such abuses within narrow limits. In Spanish America, however, commercial reports are so meager that they afford but little benefit or protection to merchants invoking their assistance.

The German salesman, especially the Hamburg man, will sell anything that is wanted, and Sheffield cutlery, French perfumeries, Kentucky whiskies, or anything else required will be duly manufactured, stamped, and labeled in Germany, and then be shipped to foreign markets.

Much of the trade of these countries may be honorably won by Americans, but they must cater to the local styles and customs.

Since February 19, 1895, more than fourteen hundred official letters and dispatches have been sent from this office. Of all the American merchants and manufacturers from whom letters have been received here during that period, the Rochester firm is the only one that has "talked as if it meant business." The secretary writes:

> We presume that a large percentage of the supply of shoes in Nicaragua is supplied by England, France, and Austria. We believe that we are able to compete satisfactorily in quality and prices with such manufacturers.

The secretary then inquires as to the shape, material, etc., of popular shoes, and impliedly says that if American shapes and styles will not take, his firm will make English, French, and Austrian shapes and styles and enter the Nicaraguan market in dead earnest. In doing this, the Rochester firm would not be guilty of illegitimate practices. They do not purpose to do as the Hamburg man does—counterfeit trade-marks and labels—but make shoes of the same styles, shapes, and materials as English, French, and Austrian shoes. The shoes, when made, will be marked with the firm name, Rochester, U. S. A.

A few months ago, it was published in an American newspaper that "a trade of magnificent proportions might be worked up in Nicaragua by American merchants and manufacturers."

The country has a population of less than 375,000. Hundreds of Nicaraguans have attended schools in Europe and the United States. The school system of the country is not as good as our own, but there is no scarcity of either public or private schools. Many of the Nicaraguans have traveled extensively in the United States and in Europe, especially in France, Germany, Belgium, Switzerland, and Spain. Perhaps 75,000 of the people live and dress as well as the people of any other country, but four-fifths of the inhabitants are extremely poor. There is no begging, no crowding of almshouses, and the people are apparently satisfied with their condition; but they have few comforts and very little money. Their wants are simple and the store purchases of one laborer in the United States amount to more in a year than like purchases of four Nicaraguan laborers during the same period.

Comparatively little of the land is cultivated. There are no wagon roads to speak of, and but few of the natural resources of the country have been developed.

The trade of the country is far from being one of "magnificent proportions"—the trade of two or three Michigan or Wisconsin counties amounting to more than the entire trade of Nicaragua—but, nevertheless, it is worth looking after. The trade of two or three ordinary counties in Michigan is not to be despised. Nicaragua, too, is a country of bright possibilities. But while the trade of Nicaragua may itself be small, it helps to swell the trade of Spanish America—a trade that has really assumed "magnificent proportions" and one that will keep step with other great trades in the future.

Certain statistics have been gathered here and there respecting the figures at which goods commonly used in Nicaragua are purchased and sold. These statistics may enable our merchants and manufacturers to determine how much further, if any, the sales of American goods may be increased in Nicaragua.

LIGHTERAGE CHARGES IN SAN JUAN DEL NORTE.

Freight and passenger rates to Atlantic ports in Nicaragua were reported April 2, 1895, and are published in SPECIAL CONSULAR REPORTS, Highways of Commerce, p. 75. Since the publication of that report, certain changes have occurred, the most important of which was occasioned by the loss on June 17 of the only steam tug in the harbor of San Juan del Norte. Prior to that time, the lighterage charges at this port were $2 to $3 per ton. These figures, as well as all others herein mentioned, are expressed in United States currency.

Immediately following the loss of the tug, lighterage charges, as reported December 3, were established as follows:

Beer	per 6 dozen pints	$0.45
Brick	per 1,000	10.50
Chairs	per half dozen	3.00
Flour	per half barrel	.30
Kerosene	per box of 10 gallons	.30
Lumber	per 1,000 feet	10.50
Miscellaneous	per ton	7.00

A new steel tug is now in commission and a second is expected to arrive in a few days. The foregoing tariff of lighterage charges will then be reduced 50 per cent. One of the tugs will make three round trips a month between San Juan del Norte and Bluefields, carrying freight and passengers. Freight charges will be $5 per ton. The coasting schooners charge 50 cents per package.

FREIGHT RATES ON SAN JUAN RIVER AND LAKE NICARAGUA.

The Nicaragua Mail Steam Navigation Company, which is the owner of the only boats on San Juan River and Lake Nicaragua, has established a new tariff for 1896, as follows, from San Juan del Norte to Granada, San Jorge, Moyogalpa, San Ubaldo, and San Miguelito.

Freight rates on the San Juan River and Lake Nicaragua.

Articles.	Unit.	Rate.
Barbed and plain wire	Per 100 pounds	$0.62½
Flour	Per half barrel	.40
Kerosene	Per 10 gallons	.62½
Dry goods, groceries, etc	Per 100 pounds	.75
Iron	do	.62½
Small stowage	do	.62½
Wines, etc	do	.75
Alcohol	do	1.00
Provisions	do	.62½
Packages:		
400 to 599 pounds	do	1.00
600 to 799 pounds	do	1.25
800 to 1,200 pounds	do	1.50
1 to 30 cubic feet	Per cubic foot	.20
30 to 100 cubic feet	do	.25
Dynamite, gunpowder, etc	Per 100 pounds	5.00
Cattle	Per head	10.00
Calves	do	6.00
Horses	do	10.00
Packages	Over 1,200 pounds, or 100 cubic feet.	Special rate.
Steam boilers		Special rate.
Gold, etc		Special rate.
Miscellaneous.		
Ordinary freght:		
Granada to lake ports	Per 100 pounds	.18¾
Lake ports to Castillo	do	.25
Lake ports to San Juan del Norte	do	.62½
San Juan del Norte to San Carlos	do	.50
Cattle:		
Lake ports to San Juan del Norte	Per head	5.00
Lake ports to Castillo	do	3.00
Castillo to San Juan del Norte	do	2.50
Horses (lake ports to San Juan del Norte)	do	7.50
Provisions (lake ports to San Juan del Norte)	Per 100 pounds	.62½
Birds (lake ports to San Juan del Norte)	Per pair	.25
Cocks, without coop (lake ports to San Juan del Norte)	Each	.25
Hens, in coop (lake ports to San Juan del Norte)	do	.07½
Rubber (lake ports to San Juan del Norte)	Per 100 pounds	.62½
Do	do	.50
Special through rates, including lighterage charges.		
Coffee (lake ports to New York)	Per 100 pounds	1.00
Rubber (lake ports to New York)	do	1.90
Deerskins (lake ports to New York)	do	2.10
Hides (lake ports to New York)	do	1.90
Indigo (lake ports to New York)	do	2.00
Coffee (lake ports to London, Bremen, Hamburg, and Havre)	Per ton of 2,240 pounds	24.33
Rubber (lake ports to London, Bremen, Hamburg, and Havre)	do	43.80
Deerskins (lake ports to London, Bremen, Hamburg, and Havre)	do	43.80
Hides (lake ports to London, Bremen, Hamburg, and Havre)	do	43.80
Indigo (lake ports to London, Bremen, Hamburg, and Havre)	do	43.80
Miscellaneous (lake ports to New York and Europe)	Per 100 pounds	1.75

COUNTRIES FROM WHICH BLUEFIELDS, CORINTO, AND SAN JUAN DEL SUR IMPORTS ARE RECEIVED.

There are but four ports of entry in Nicaragua—Bluefields and San Juan del Norte, on the Atlantic, and San Juan del Sur and Corinto, on the Pacific coast. Mr. Eugene Southworth, an American engaged in business at Granada, has furnished information respecting the countries from which the Corinto and San Juan del Sur imports come, and Mr. Samuel Weil, the head of an American house in Bluefields, has given like information in regard to the Bluefields imports.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Agricultural implements	United States, England, and Germany.	United States.
Alcohol	United States	Do.
Ale	England	England.
Alum	United States	United States.
Arms and ammunition	United States, Belgium, and England.	United States and England.
Bacon	United States and England	United States.
Bags	United States	Do.
Balances and scales	do	Do.
Beer	United States and Germany	United States and Germany.
Beeswax	United States	United States.
Bicycles	United States and England	Do.
Blacking	United States	Do.
Black lead	do	United States and England.
Blankets	United States, England, and Germany.	Germany, England, and Austria.
Books:		
Blank	France	United States and Germany.
Printed	France	United States and France.
School	France and Mexico	United States.
Boots and shoes	United States, France, and England.	United States, France, Austria, and China.
Braces and suspenders	United States and England	United States and France.
Brass	United States and England	United States.
Brassware	do	United States, Austria, and Germany.
Bricks	United States	United States.
Brushes (hair)	do	United States and France.
Brush ware	do	United States.
Buckboards	do	
Buckets and tubs:		
Iron	United States and England	United States and England.
Wood	United States	United States.
Buggies	do	
Butter	United States and England	United States and Denmark.
Canvas	England	United States.
Cards (playing)	do	United States and Belgium.
Carriages	United States	United States.
Carriage materials	do	Do.
Carts and wagons	do	Do.
Cement	United States and England	Do.
Cheese	do	Do.
Chemical products	United States, England, and France.	Do.
Cigars	Cuba, Mexico, and Germany	United States, Jamaica, and Mexico.
Clocks	United States	United States and Germany.

Countries from which imports are received—Continued.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Clothing	United States, England, and France.	United States and England.
Collars and cuffs	do	United States and France.
Confectionery	England and France	United States, England, and China.
Cordage	United States	United States and England.
Corks	do	United States.
Corn	do	Do.
Corned beef	do	Do.
Cornstarch	do	Do.
Cots	United States and England	Do.
Cotton:		
Damask	England	United States and England.
Drills	United States and England	England.
Thread	England	United States and England.
Waste	do	United States.
Yarn.	do	England.
Crackers	United States and England	United States and England.
Crockery	do	Do.
Cutlery	United States, England, and Germany.	United States, England, and Germany.
Doors	United States	United States.
Drapery	England and France	United States, England, and Germany.
Dress goods	United States, England, France, and Germany.	United States, England, France, Germany, Austria, and China.
Druggists' sundries	United States, England, and France.	United States and France.
Drugs	do	United States, England, and France.
Dyes	England and France	United States.
Earthenware	England and Germany	England.
Electroplated ware	United States	United States.
Engine packing	do	Do.
Fancy goods	United States, England, France, and Germany.	United States, England, France, Germany, and Austria.
Farm implements	United States and England	United States.
Felt for sheathing	United States	Do.
Fence wire	do	Do.
Fire engines	do	
Fire hose	do	
Fish:		
Dried and pickled	United States and England	Do.
Potted and preserved	do	United States, France, and Portugal.
Flour	United States	United States.
Fruits:		
Canned	United States and England	United States and England.
Dried	do	United States, England, and China.
Preserved	do	United States, Germany, and China.
Furniture:		
Brass	United States and Germany	United States.
Iron	do	Do.
Office	do	Do.
Wicker	Germany	Do.
Wood	United States and Germany	United States and Austria.
Glass:		
Bottles	United States	United States.
Window	do	Do.
Ware	do	Do.
Gloves	do	Germany.
Glue	do	United States.
Grindstones	do	Do.

Countries from which imports are received—Continued.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Haberdashery	United States, Germany, and France.	United States, Germany, France, England, and China.
Hair		United States.
Ham		Do.
Hardware:		
Axes and hatchets	United States and England	Do.
Machetes	United States, England, and Germany.	United States and Germany.
Spades and shovels	United States and England	United States.
Harness	United States	Do.
Hats and caps	United States, England, and France.	United States, England, France, and Austria.
Hollow ware	United States	United States.
Honey		Do.
Hops		Do.
Horseshoes	United States	Do.
Hosiery	United States, England, and Germany.	Germany, England, and China.
India-rubber goods	United States and England	United States and Germany.
Ink	United States	Do.
Instruments:		
Accordions	France and Germany	Germany.
Harmonicas	do	Do.
Optical	Germany	United States and France.
Organs	United States and Germany	United States and Germany.
Pianos	United States	Do.
Surgical	Germany	United States and France.
Surveyors'	United States	United States.
Iron:		
Bolts and nuts	United States	Do.
Castings	do	Do.
Pipes (cast)	do	Do.
Wire fencing	do	Do.
Jams	United States and England	England.
Jeans		United States.
Jewelry	United States, France, and Germany.	United States and France.
Kerosene oil	United States	United States.
Laces	England	England and Germany.
Lamps	United States	United States and Austria.
Lard	do	United States.
Lath	do	Do.
Lead and shot	United States and England	United States and England.
Leather and leather goods	United States and France	United States and Germany.
Lime		United States.
Linen	England	England and Germany.
Lumber	United States	United States.
Macaroni and vermicelli		Do.
Machetes	United States, England, and Germany.	Do.
Machinery:		
Agricultural	United States	Do.
Electric	do	
Engines	do	Do.
Flour mills	do	Do.
Quartz crushing	do	Do.
Sawmill	do	Do.
Wool and hay pressing	do	Do.
Sewing machines	United States and Germany	Do.
Parts of	United States	Do.

Countries from which imports are received—Continued.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Marble	United States and Germany	United States.
Meal	United States	Do.
Meats:		
Beef, dried and salted	United States and England	Do.
Hams and bacon	do	Do.
Pork, salted	United States	Do.
Potted and pressed	United States and England	United States and England.
Milk, canned	do	United States.
Molasses		Do.
Nails	United States, England, and France	Do.
Naphtha		Do.
Neckties	United States, England, France, and Germany.	United States and Germany.
Nuts	United States	United States.
Oars	do	Do.
Oilcloth and mats	United States, England, and Germany.	United States and China.
Oils:		
Antifriction grease	United States, England, and France.	United States.
Castor	do	England and France.
Cod-liver	United States and England	United States.
Kerosene	United States	Do.
Olive	United States, England, and France.	United States and France.
Palm	United States and England	
Salad	England	United States and England.
Whale	United States, England, and France.	United States.
Paintings and engravings	United States, England, and Germany.	Germany.
Paints:		
Mixed	United States and England	United States and England.
Unmixed	do	Do.
Paper:		
Printing	United States	United States.
Wrapping	do	Do.
Pens	do	Do.
Perfumery	United States, England, and France.	United States and France.
Photographic goods	United States	United States.
Picture frames and molding	United States, Germany, and France.	United States and Germany.
Pipes and cigar holders	United States and Germany	United States and France.
Pitch and tar	United States	United States.
Plaster of paris		Do.
Plate (silver)	United States	Do.
Plated ware	do	Do.
Portmanteaus	United States, Germany, and France.	United States and Germany.
Printing material	United States and Germany	United States.
Pumps	United States and England	Do.
Quicksilver	United States	Do.
Railway supplies	United States and Belgium	
Resin		Do.
Rice	United States and England	United States and China.
Roofing	do	England.
Rope	United States	United States.
Rubber goods	United States, England, and Germany.	United States and England.
Saddlers' ironmongery	United States	United States.
Saddlery and harness	United States and England	Do.
Salt	United States	Do.

Countries from which imports are received—Continued.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Sauces	United States, England, Germany, and France.	United States and England.
Sausages	Germany, France, and Belgium	United States and Germany.
Schoolbooks	France and Mexico	United States.
Screws, bolts, etc	United States and England	Do.
Seeds	United States	Do.
Sewing machines	United States and Germany	Do.
Shafts, spokes, etc	United States	
Shawls	United States, England, Germany, and France.	Germany and China.
Sheetings	United States and England	United States and England.
Shingles	United States	United States.
Ship chandlery	United States and England	United States and England.
Shirtings	do	Do.
Silks	United States, England, France, Belgium, and Germany.	United States, England, France, and China.
Silverware	United States and England	United States.
Soap:		
Common	do	United States and England.
Fancy	United States, England, and France.	United States, France, and Belgium.
Spirits:		
Bitters	United States and Germany	United States and Spain.
Brandy	United States and France	France and Germany.
Gin	England, Holland, and Germany	Holland and England.
Perfumery	United States, England, and France.	France.
Rum	United States, Germany, and Jamaica.	Jamaica.
Whisky	United States, England, and Germany.	United States, England, and Germany.
Starch	United States	
Stationery	United States, England, France, and Germany.	United States and Germany.
Steam boilers	United States and England	United States.
Steel	United States	
Stone (grindstone)	do	Do.
Stoneware	England and Germany	England.
Stoves	United States and England	United States and England.
Sugar:		
Brown	United States	United States.
Granulated	do	United States and Germany.
Loaf	United States and England	Do.
Sirup		United States.
Tea	United States and England	Do.
Telegraph supplies	United States	Do.
Timber	do	Do.
Tin plate	United States and England	Do.
Tinsmiths' fittings	United States	Do.
Tinware	United States and England	Do.
Tobacco:		
Cigarettes	United States	United States and Jamaica.
Cigars	Cuba, Mexico, and Germany	United States, Jamaica, and Mexico.
Leaf	United States	United States.
Manufactured	United States and England	United States and England.
Toilet articles	United States, England, France, and Germany.	United States, England, France, and Austria.
Tools, artificers'	United States, England, and Germany.	United States.

Countries from which imports are received—Continued.

Articles.	Imports into Corinto and San Juan del Sur from—	Imports into Bluefields from—
Toys	United States, England, France, and Germany.	France, Germany, and China.
Trunks	United States and England	United States.
Turpentine	United States	Do.
Twine	United States and England	Do.
Umbrellas	United States, Germany, and Italy	Germany.
Underwear	England, France, and Germany	England, France, Germany, and Spain.
Valises	United States, England, and Germany.	United States and Germany.
Varnish	United States	United States.
Vegetables, canned:		
Asparagus	United States and France	United States and France.
Corn	United States	United States.
Pease	United States, France, and Germany.	United States and France.
String beans	United States	United States.
Tomatoes	do	Do.
Miscellaneous	United States and Germany	Do.
Vinegar	United States	Do.
Watches	United States, England, and Germany.	United States and Germany.
Wax	United States and England	United States.
Whisky	United States, England, and Germany.	United States, England, and Germany.
Whiting		United States.
Windmills	United States	
Window curtains	United States and England	England.
Wines	United States, England, Germany, and Italy.	France, Germany, Italy, and England.
Wire netting	United States	United States and England.
Wood ware	do	United States.
Woolen dress goods	United States, England, France, and Germany.	United States, England, France, Germany, and Austria.
Woolens	England and France	England, France, and Germany.
Zinc	United States	United States.

BLUEFIELDS IMPORTS AND EXPORTS.

In round numbers, the invoice valuations of Bluefields imports during the year ended December 31, 1895, were:

Countries.	Value.	Countries.	Value.
United States	$300,000	Spain	$2,500
Germany	150,000	Mexico	900
France	80,000	Denmark	400
England	75,000	Italy	300
Austria	20,000	Newfoundland	250
Holland	10,000	Portugal	150
China	5,000	Total	647,500
Jamaica	3,000		

This does not include goods consigned to San Juan del Norte, but landed at Bluefields during the time San Juan del Norte was without a harbor tug.

The imports from China consist of lacquer tables and waiters, ivory and sandal wood, fans, silks, silk socks and stockings, dress fabrics, handkerchiefs, shawls, fichus, porcelain, slippers, mats, workboxes, toys, novelties, rice, confectionery, and preserved fruits. These goods are imported by Chinese storekeepers, who also handle other goods and have been quite successful in business. There are about thirty Chinese stores and shops in Bluefields and its vicinity.

During the fiscal year ended June 30, 1895, the exports from the port of Bluefields to the United States amounted to $1,212,646.96, and those to all other countries but $4,250.

Between July 1 and December 31, 1895, exports from Bluefields to the United States were:

Articles.	Quantity.	Value.
Bananas .... bunches	753,000	$245,327.19
Cocoanuts .... number	257,300	3,220.11
Ginger .... barrels	11	122.89
Gold dust .... ounces	5,430	93,980.32
Gum .... cases	8	148.02
Hides .... bales	19	171.40
Lemons .... barrels	43	115.30
Oranges .... number	1,500	26.76
Ore (specimen) .... boxes	9	19.91
Personal effects .... packages	2	28.55
Rubber .... bales	2,469	126,312.60
Shells .... boxes	6	1,885.53
Specie .... packages	14	12,750.00
Steel (old) .... sheets	13	13.00
Tuna .... bales	5	90.00
American goods returned	....	2,630.75
Total	....	486,842.33

The exports to all other countries aggregated less than $2,000.

STEAMSHIP ARRIVALS AT BLUEFIELDS.

Between July 1, 1894, and June 30, 1895, exclusive of coasting vessels, there were 7 schooner and 156 steamship arrivals at Bluefields, all from the United States. Classed according to nationality, the arrivals were as follows: Schooners—American, 7; steamships—American, 37; Norwegian, 112; British, 6; Danish, 1; total, 163.

Since the publication of SPECIAL CONSULAR REPORTS, Highways of Commerce (October, 1895), the Morgan steamships have been withdrawn from the Bluefields and New Orleans route. Negotiations are now in progress looking toward their return. Steamship trade between Philadelphia and Bluefields has temporarily ceased, and it is very seldom that a vessel clears from Bluefields for New York.

In 1895, New Orleans and Mobile boats ran regularly to Bluefields. The number of steamship arrivals and departures varies according to the condition of the banana crop in Nicaragua and the market in the United States. The arrivals and departures each number from seven to twenty a month. Last year, twenty-two steamships cleared in April and eleven in December.

BANANA TRADE OF BLUEFIELDS.

According to the returns made by our consular agent at Bluefields, 2,101,000 bunches of bananas were shipped from that port to the United States in 1895. A tabular statement recently issued by Bennett, Walsh & Co., of New York, places the total importation of bananas into the United States in 1895 at 16,720,127 bunches, of which 4,108,620 came from Jamaica, 2,277,882 from Bocas del Toro, and 2,144,048 from Bluefields, the latter port ranking third in the number of bunches. The records in the Government building at Bluefields do not agree with the above figures, the list of exports showing but 1,949,662 bunches of bananas.

The Bluefields Recorder of February 15 announces that a company has been organized, which, under the name of the Caribbean Fruit Company, will run the steamships *Hiram* and *Washington* between New Orleans and Bluefields, the Bluefields end to be managed by the firm of Brown & Harris. The members of this firm are Americans, and their house is one of the leading importing houses of Bluefields. Information has been derived from another source that an effort will be made in Cincinnati to sell and distribute a good share of the bananas carried by the Caribbean Fruit Company, which, if successful, is expected to materially increase the sales in Nicaragua of Cincinnati goods.

BLUEFIELDS AND ITS TRADE.

Bluefields, unlike San Juan del Norte, has a municipal council, the members of which (councilors) are elected by the residents of the town. The mayor, or alcalde, is also elected. Foreigners engaged in business in the town and bona fide residents thereof are entitled to vote and are eligible to either of the offices mentioned. As Bluefields owes most of its progress and prosperity to the enterprise of residents from the United States and to the investment of United States capital in that section, the list of past alcaldes and councilors naturally embraces the names of a respectable number of United States citizens. According to the census taken in January, 1895, the town had a population of 2,091, but it is claimed now to be from 2,500 to 3,000.

United States, German, British, and Chinese merchants monopolize the trade, that of the United States and Chinese houses being at least four-fifths of the whole. Every dealer and merchant must take out a commercial license. A schedule of these licenses was transmitted to the Department October 9, 1895.* The taxes on real estate amounted in 1895 to $4,800, the greater part of which was paid by foreigners. The assessed valuation of all real estate was $240,000.

As already stated, all prices and values mentioned in this report (unless otherwise expressly mentioned, as in the case of the export duties on bananas) have been reduced to United States currency.

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*Printed in CONSULAR REPORTS, No. 183 (December, 1895), p. 5-7.

A force of thirty policemen is kept on duty. Soldiers are quartered at the harbor entrance. The expenses of the police department are borne by the municipality of Bluefields and the Department of Zelaya, or what was formerly known as Mosquito Territory. Soldiers are paid by the Department. As stated in the report of Minister Callejas, a copy of which was transmitted to the Department December 30, the annual expenses of the Department are $185,703.90 ($92,851.95 in United States currency). Nearly one-half of this amount is required to maintain police and troops in the district.

The appropriation for the department of public instruction is but $9,800 ($4,900 in United States currency). The revenues of the Department are derived principally from export and import duties.

Bluefields, like San Juan del Norte, has neither railways nor wagon roads leading from it. Its only highways are the sea and the rivers and lagoons. The town itself is on the west side of Bluefields lagoon, and is about 6 miles distant from the harbor entrance. The entrance is overlooked by an eminence known as Bluefields Bluff. The custom-house is at the Bluff. Steamships discharge all freight and passengers at the Bluff, the lagoon being navigable only by very light-draft vessels. Lighters and small steamboats are employed on the lagoon.

The coasting schooners are small and of light draft, their carrying capacity running from 3 to 20 tons. Larger boats can not cross either the Bluefields lagoon or the bars at the mouths of the various rivers north and south of Bluefields. Ocean steamships run up the Bluefields (also known as Escondido) River as far as Rama, a distance of about 55 miles, but carry no local freights. A small steamer runs regularly between Bluefields and Rama, but much of the river traffic is handled by canoes and lighters. The principal banana district commences about 25 miles above Bluefields and extends west about 20 miles, the plantations being along the banks of the Bluefields River and its small tributaries. The Bluefields River is formed by the junction of the Siquia and Rama rivers. The town of Rama is built at the junction.

Banana plantations have been established on the Siquia and Rama, and many persons claim that the lands are superior to those along the Bluefields River. Mangoes and other fruits are plentiful in this region, but are not exported.

In March, 1895, Government agents were instructed to collect facts respecting every plantation on the Bluefields River and its affluents. These statistics are as follows:

Description.	Number.	Description.	Number.
Plantations	197	Horses	56
Acreage	34,926	Cattle	209
Acreage of bananas	7,100	Swine	56
Acreage of grass	430	Poultry	749
Acreage uncultivated	27,396	Superintendents employed	52
Banana plants	1,420,515	Laborers (mozos) employed	468
Bunches of bananas annually	2,500,000		

The average wages per month of superintendents, not including cost of provisions, is $25; average wages per month of laborers, not including cost of provisions, $9; estimated cost of provisions for employees annually, $2,963. The estimated value of the annual export of bananas is $900,000. Of the 34,926 acres mentioned, title has been perfected in the case of but 9,745 acres.

Rama has a population of about 2,000. At one time, Bluefields merchants supplied goods to the Rama stores. The settlers on the Siquia and Rama rivers frequently found it more advantageous to purchase their supplies in Bluefields than in Rama, where prices were higher. The growth of Rama, however, has led to the direct importation of goods by local merchants, and Bluefields has thus lost a double trade.

With the exception noted, Bluefields merchants may be said to have a monopoly of all the coast trade from Punta Gorda, on the south, to Cape Gracias-á-Dios, on the north, a distance of about 270 miles, and of the territory west of this sea line, ranging from 70 to 140 miles in width, according to the length of the various rivers emptying into the Caribbean north of Punta Gorda.

The territory tributary to Bluefields is sparsely settled. It is without railways and wagon roads. The nearest resemblance to a wagon road is an occasional track or trail leading from a lumber or mining camp to the nearest point on the river, or lagoon, upon which the camp's supplies and products are transported to and from the sea. These camps do not deserve to be called settlements. Like camps in most other wild regions, they seldom consist of more than a few cheap and temporary buildings.

There are not less than twenty openings to the sea between Punta Gorda and Cape Gracias-á-Dios. Along the coast, is a series of landlocked lagoons ranging in length from 5 to 20 miles and in width from 1 to 7 miles. There are small settlements at the mouths of many of the sea openings and on the shores or banks of the principal lagoons. These settlements are nothing but little groups of houses. Here and there may be found two or three small stores, but the group generally comprises nothing but a single store and eight or ten thatched dwellings and sheds. Most of the little coasters that visit these coast and lagoon trading points are either owned or chartered by Bluefields merchants.

The settlements in the interior of the territory described are few and far between, and are necessarily confined to the banks of the rivers. Everything that comes and goes must be carried by canoe. With scarcely an exception, the river stores are of the meanest kind. The settlers on the Bluefields River live comparatively well, but the settlers along the other rivers have comparatively few of what we call comforts. With no markets for crops, except such as the little store settlements afford, there is no inducement to either clear or cultivate many acres.

A few enterprising settlers have engaged in the grazing industry, but not to any extent. With nothing but his hands and a machete, the settler clears and breaks an acre or so for plantains, yams, and cassava. Five or six times a year he loads his canoe and starts for the mouth of the river. His wants are simple, and his little cargo brings enough to satisfy all his requirements. Rice, corn, frijoles, leaf tobacco, cheap cloth, and occasionally a yard of ribbon or some small trinket constitute about all his purchases.

Fortunately for the settlement storekeepers, however, they have a better class of customers than the poor settlers. Many of these storekeepers, especially Americans, have made considerable money handling gold dust and rubber. The gold dust and rubber are brought to the settlements and the greater part exchanged for goods. The average miner or rubber hunter feels comparatively rich when he has from $50 to $200 worth of gold dust or rubber, and, if not a Chinaman, he is quite apt to spend the proceeds for articles needful and otherwise, just as most of his brothers under like circumstances have always done, the world over.

The foreign population of the town of Bluefields consists of 475 British (mostly Jamaica negroes), 375 Americans, 75 Germans, 38 French, and 81 Chinese.

CORINTO AND SAN JUAN DEL SUR—IMPORTS AND EXPORTS.

Of the four ports of the Republic, Bluefields is the only one at which the importations are greater in value than the exportations. Various figures have been reported and published regarding the exports and imports of the Pacific ports. The reports made by Mr. Newell, late consul of the United States at Managua, are the most reliable that have ever been published. But few of the reports are not misleading, in consequence of the indiscriminate employment of figures, some representing values in United States currency and others in the depreciated and fluctuating moneys current in Nicaragua. The statistician for the Republic writes that his bureau, being a new one, is in possession of but few statistics prior to 1895 that are not both fragmentary and unreliable. The official figures published for 1895 are:

Imports into San Juan del Sur from January 1 to June 30, 1895.

Imported from—	Number of packages.	Weight.	Value.
		Pounds.	
China	2	104	$10.00
Colombia	1	210	285.00
Costa Rica	422	48,045	1,097.76
Ecuador	1	28	150.00
England	1,818	260,080	30,968.40
France	192	17,807	4,525.76
Germany	823	99,391	5,473.92
Italy	224	23,437	1,944.02
Mexico	27	3,064	19.52
Salvador	121	20,846	1,396.07
Spain	39	3,482	282.55
United States	5,428	679,269	17,031.29
Total	9,098	1,155,763	63,184.29

Imports into Corinto from January 1 to August 31, 1895.

Imported from—	Number of packages.	Weight.	Value.
		Pounds.	
Belgium	165	4,344	$317.58
Chile	286	40,018	2,551.21
China	2	255	2,524.50
Colombia	136	17,251	19,577.04
Costa Rica	900	58,737	6,323.69
Cuba	3	884	401.90
Ecuador	5	482	2,189.00
England	19,245	3,567,949	414,176.04
France	4,705	508,286	91,063.18
Germany	16,230	2,446,616	160,203.34
Guatemala	5,009	479,865	12,211.40
Holland	100	2,534	200.00
Honduras	6	783	12,663.75
Italy	529	57,728	4,862.29
Mexico	27	2,044	1,784.64
Peru	55	8,068	73,836.03
Salvador	1,521	218,557	125,469.52
Spain	93	9,490	7,733.48
United States	39,962	4,853,958	279,420.82
Total	88,979	12,277,849	1,217,509.41

The Nicaraguan consul-general in Hamburg reports that, in 1894, the Hamburg exports to Nicaragua amounted to $351,848.06, as against $214,161.96 in 1893 and $230,248.82 in 1892. The leading Hamburg exports to Nicaragua in 1894 and their values, in round numbers, were:

Articles.	Value.	Articles.	Value.
Cotton mixed goods	$42,000	Beer	$10,000
Woolen goods	27,000	Boots and shoes	10,000
Iron fine goods	26,000	Wire	9,500
Hosiery	22,000	Machinery	9,500
Ordinary wines	15,000	Silks	9,000
Clothing and haberdashery	13,000	Leather	8,000
Earthenware	13,000	Furniture	8,000
Cotton cloth	11,000	Paper	7,500
Rice	10,000	Umbrellas	4,200

Among the Hamburg exports were acids, artificial flowers, buttons, brush ware, bagging, cordage, carbonate of soda, copper, cutlery, cognac, champagne, crystal, canned and potted meats, fruits and vegetables, cigars, drugs, druggists' sundries, engravings, chromos and paintings, fancy goods, glassware, gins, hats, inks, iron bars and plates, jewelry, laces, linens, mineral wax, metals, matches, mineral waters, musical instruments, marble, mirrors, notions, nails, ordinary ironware, organs, olive oil, perfumeries, pasteboard, palm oil, petroleum, porcelain, preserves and jams, pianos, pearls, stationery, statuary, shot, sewing machines, sardines, salt, spices, tea, tin and tinware, toys, thread (all kinds), and vaseline.

Mr. Southworth, of Granada, reports that in western Nicaragua there is little demand for foreign sugars, soaps, lard, salt, starch, beans, and tomatoes, the home products being more popular. He says also that there is no sale for either mince-meat, corn meal, graham flour, salt pork, or corned beef.

EXPORTS FROM CORINTO JANUARY 1 TO JUNE 30, 1895.

Between January 1 and June 30, 1895, the Corinto exports amounted to $2,065,051.85. In addition to products similar to those exported from San Juan del Sul, the Corinto exports included books, cigars, corn, fish, fruit, gold, grass mats, hammocks, jewelry, palms, rice, starch, soaps, specie, sole leather, tamarinds, and tobacco. England, Germany, France, Italy, Austria, and the United States took $1,873,291.80, as follows:

Whither exported.	Amount.
Cacao (Italy)	$50.00
Cigars, puros (United States)	.75
Coffee:	
Austria	443.10
England	197,492.91
France	115,391.23
Germany	1,151,563.15
Italy	82,664.50
United States	228,107.67
Total	1,775,662.56
Deerskins (United States)	2,539.58
Dyewoods:	
France	93.00
Germany	620.00
Total	713.00
Gold:	
England	2,875.00
United States	1,333.50
Total	4,208.50
Fruits (United States)	$1.50
Hides:	
France	60.00
United States	3,029.67
Total	3,089.67
Jewelry (Italy)	150.00
Rubber (United States)	8,959.49
Seeds (Germany)	4.25
Specie:	
England	14,525.00
France	1,300.00
United States	62,075.00
Total	77,900.00
Sugar (Italy)	10.00
Tamarinds (Italy)	2.50
Grand total	1,873,291.80

The remaining exports were distributed as follows, $65,720 thereof being silver specie:

Colombia	$2,165.02
Costa Rica	23,092.57
Guatemala	26,331.25
Honduras	9,408.35
Salvador	130,762.86
Total	191,760.05

Next to specie, corn (maize) was the leading export to the neighboring republics and amounted to $47,494, of which Salvador alone took $43,500.

Next on the list was sugar, which was distributed as follows:

Costa Rica	$15,685
Guatemala	15,800
Honduras	2,104
Salvador	150
Total	33,739

Other leading exports to Central American states were:

Articles.	Amount.	Destination.
Cheese	$10,500	Mostly to Salvador.
Frijoles (beans)	8,950	Do.
Sole leather	2,465	Do.
Salt	4,822	All to Guatemala and Salvador.
Tobacco	2,465	All to Costa Rica.
Lard	3,000	Mostly to Salvador.
Grass hammocks	1,400	Mostly to Costa Rica.
Soap	725	Mostly to Honduras.
Shoes	320	All to Honduras.

EXPORTS FROM SAN JUAN DEL SUR, JANUARY 1 TO JUNE 30, 1895.

The San Juan del Sur exports during the first six months of 1895 amounted to $104,715.34, and consisted of beans (frijoles), butter, cheese, cacao, coffee, carved cocoanut shells, etc., dried beef, deerskins, dyewoods, hides, indigo, lard, logwood, palm hats, rope, rubber, seeds, shoes, salt, and sugar.

Exports valued at $23,029.85 were shipped to Colombia, Guatemala, Salvador, and Costa Rica. The leading exports to Colombia and the Central American states were: Cheese, $14,212.32; lard, $2,488.62; sugar, $714.10. Shoes valued at $87 were shipped to Costa Rica. All other exports went to England, Germany, France, and the United States, and consisted entirely of indigo, coffee, hides, rubber, dyewoods, and deerskins. The exports to Europe and the United States were distributed as follows:

Whither exported.	Amount.	Whither exported.	Amount.
Coffee:		Hides (United States)	$534.52
England	$18,559.20	Indigo (Germany)	5,110.30
France	8,627.75	Rubber:	
Germany	38,213.10	England	41.70
United States	6,734.15	United States	3,037.45
Total	72,134.20	Total	3,079.15
Deerskins (United States)	187.32	Grand total	81,685.49
Dyewoods (Germany)	640.00		

SAN JUAN DEL NORTE EXPORTS AND IMPORTS.

Exports.—The exports from San Juan del Norte during the year ending June 30, 1895, were:

Articles.	Where to.						Total.
	England.	France.	Germany.	Holland.	Italy.	United States.	
Alligator skins						$10.00	$10.00
Cocoanuts						1,471.20	1,471.20
Coffee	$23,609.85	$14,337.90	$185,716.80		$114.00	258,555.14	482,333.69
Deerskins	2,024.92		1,428.17			21,108.28	24,561.37
Feathers	100.00					1,016.25	1,116.25
Gold dust	13,205.29	4,078.75	3,510.00			22,608.00	43,402.04
Hammocks						15.00	15.00
Hides	3,002.22	740.65	1,150.57	428.25		15,240.70	20,562.39
Indigo	6,047.90	11,311.50	5,067.10		589.00	418.90	23,434.40
Photographing outfit						10.00	10.00
Rubber	45,984.45	535.85	5,349.75	152.25		132,023.43	184,045.73
Specie						1,100.00	1,100.00
Tortoise shells		546.00					546.00
Total	93,974.63	31,550.65	202,222.39	580.50	703.00	453,576.90	782,608.07

Imports.—Between July 1, 1894, and June 30, 1895, the San Juan del Norte imports were as follows:

Where from.	Amount.	Where from.	Amount.
Colombia	$4,215.67	Honduras	$173.00
Costa Rica	318.75	Jamaica	3,666.42
England	65,575.60	United States	87,428.68
France	6,674.08	Total	229,459.01
Germany	57,248.57		
Holland	4,158.24		

The following is a complete list of the imports for the year ending June 30, 1895, as described in the bills of lading:

Articles.	Number.	Articles.	Number.
Aërometers … package	1	Arms and ammunition—Continued.	
Arms and ammunition:		Rifles … cases	4
Air guns … cases	2	Do … number	80
Do … package	1	Shot … kegs	2
Ammunition … cases	42	Do … case	1
Cartridges … do	88	Sundries … bale	1
Do … packages	2	Bagging:	
Cartridge shells … cases	236	Bags, empty … bales	10
Firearms … do	14	Burlaps … do	13
Guns … do	6	Sacks, coffee … do	8
Do … packages	2	Barometers … case	1
Gunpowder … cases	67	Baskets … crates	4
Percussion caps … do	12	Do … bundles	3
Revolvers … do	1	Basket ware … cases	4

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.
Bicycles, etc.:	
Bicycles ..... crates	12
Tricycles ..... do	6
Velocipedes ..... do	2
Books, etc.:	
Books ..... cases	13
Do ..... package	1
Catalogues, etc ..... cases	24
Do ..... packages	7
Chromos ..... cases	4
Do ..... crate	1
Engravings ..... trunk	1
Paintings ..... cases	2
Picture frames ..... crates	2
Playing cards ..... cases	2
Booths ..... bale	1
Brass:	
Polish ..... case	1
Valves ..... do	1
Ware ..... do	4
Carriages, etc.:	
Axles ..... bundle	1
Carriages ..... crates	4
Baby ..... do	6
Doll ..... case	1
Carriage poles ..... bundles	3
Carriage shafts ..... do	1
Wheels—	
Carriage ..... do	2
Cart ..... crates	4
Ox bows ..... bundle	1
Wagon fittings ..... cases	2
Wagon material ..... do	1
Wagon wheels ..... bundles	4
Wagon tires ..... do	37
Cattle (bulls):	
Holstein	1
Swiss	1
Cement ..... barrels	74
Clocks, jewelry, etc.:	
Cash registers ..... case	1
Clocks ..... do	16
French ..... do	4
Jewelry ..... packages	5
Do ..... cases	4
Plated goods ..... do	6
Spectacles ..... tin	1
Coal (in bags) ..... tons	40
Cordage, etc.:	
Rope ..... bales	27
Do ..... coils	138
Do ..... packages	3
String ..... bales	3
Twine ..... do	12
Cork fenders ..... bundles	19
Corks ..... case	1
Do ..... bale	2
Copper goods ..... crates	2
Crockery, etc.:	
China ware ..... cases	20
Crockery ..... do	3
Crockery, etc.—Continued.	
Crockery ..... casks	23
Do ..... barrels	29
Earthenware ..... cases	71
Do ..... barrels	40
Do ..... casks	3
Do ..... crates	3
Porcelain ..... cases	25
Pottery ..... tierce	1
Drugs, etc.:	
Alum ..... bags	10
Ammonia ..... case	1
Acids ..... do	7
Do ..... barrel	1
Do ..... cases	2
Benzine ..... do	3
Bisulphate of lime ..... packages	5
Brushes (toilet) ..... case	1
Do ..... trunks	2
Carbolic acid ..... cases	2
Castor oil ..... do	21
Caustic soda ..... drums	15
Chloride of lime ..... barrels	2
Chalk ..... cases	2
Citric acid ..... do	1
Cocoa butter ..... do	1
Cordials ..... do	3
Dentists' sundries ..... do	1
Drawing materials ..... do	2
Ether ..... do	4
Florida water ..... do	65
Do ..... packages	13
Do ..... kegs	3
Hide poisons ..... cases	5
India-rubber goods ..... trunk	1
Lampblack ..... barrels	25
Medicines ..... cases	71
Do ..... packages	4
Do ..... half barrels	2
Mercury ..... packages	4
Nitric acid ..... case	1
Pastes ..... do	4
Perfumed spirits ..... do	2
Perfumed water ..... do	16
Perfumeries ..... do	97
Do ..... trunks	3
Quinine ..... cases	4
Do ..... package	1
Rhubarb ..... case	1
Silicate soda ..... barrels	10
Soda ..... do	35
Sozodont ..... case	1
Sulphur ..... barrels	6
Sulphuric acid ..... cases	3
Sundries ..... do	379
Do ..... packages	83
Do ..... trunks	3
Do ..... keg	1
Do ..... barrel	1
Toilet water ..... cases	2
Tonics ..... do	12

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Drugs, etc.—Continued.		Dry goods, etc.—Continued.	
Tooth powders.......packages...	4	Hats (straw).......cases...	19
Do.......case...	1	Do.......trunks...	4
Trusses.......do......	1	Hemp goods.......case...	1
Ultramarine.......kegs...	4	Hosiery.......do......	19
Vaseline.......cases...	12	Do.......bales...	4
Whiting.......half barrels...	2	Do.......trunks...	2
Dry goods, etc.:		Laces.......packages ..	3
Artificial flowers.......cases...	4	Do.......trunks...	7
Bedding.......bales...	2	Lawns.......cases...	3
Blankets—		Linens.......do......	6
Wool.......do......	4	Do.......trunks...	3
Mixed.......do......	3	Matting.......rolls...	3
Cotton.......do......	4	Neckware.......bales...	4
Buttons.......cases...	6	Do.......case...	1
Carpets.......bales...	9	Needles.......cases...	3
Do.......case...	1	Do.......packages...	2
Clothing (men's).......do......	37	Notions.......cases...	10
Do.......trunks...	2	Do.......packages...	2
Do.......parcels...	3	Oilcloths.......cases...	5
Cloths.......cases...	3	Do.......bales...	8
Do.......parcels...	4	Overalls.......cases...	4
Coatings.......case...	1	Sheetings.......bales...	2
Collars and cuffs.......do......	3	Shirts:	
Do.......packages...	5	Cotton.......cases...	8
Corsets.......case...	1	Do.......bales...	4
Cotton goods.......do......	24	Silk.......trunks...	5
Do.......trunk...	1	Wool.......cases...	24
Do.......bale...	1	Shawls.......do......	4
Cotton and silk goods.......cases...	4	Silk.......trunk...	1
Cotton waste.......bales...	13	Silk.......cases...	16
Cotton wool.......case...	1	Silk samples.......packages...	10
Cottons.......do......	50	Tarpaulins.......cases...	4
Do.......bales...	175	Thread.......do.. ...	4
Do.......bundles...	33	Tissues.......do......	1
Do.......trunk...	1	Do.......bales...	3
Cotton samples.......packages...	2	Trunks.......number...	58
Cotton and wool mixed.......bales...	6	Turbans.......case...	1
Domestics.......do......	7	Umbrellas.......cases...	8
Drapery.......cases...	3	Do.......bales...	2
Do.......bale...	1	Underware.......cases...	6
Dresses.......trunk...	1	Wool and cotton mixtures.......bales...	2
Drills.......do......	14	Wool and silk mixtures.......do......	2
Duck.......rolls...	42	Woolen goods.......cases...	4
Dry goods.......cases...	149	Do.......bales...	3
Do.......bales...	159	Woolens.......cases...	5
Do.......trunks...	10	Do.......bales...	7
Do.......packages...	173	Dynamite.......cases...	8
Dry-goods samples.......trunk...	1	Electric bells.......do......	2
Elastic web.......case...	1	Fire clay.......barrels...	2
Fans.......do......	3	Furniture:	
Flags.......packages...	2	Bedslats.......case...	1
Flannels.......cases...	5	Bedsteads.......racks...	32
Haberdashery.......do......	6	Bureaus.......bale...	1
Handkerchiefs—		Chairs.......bundles...	168
Cotton.......do......	3	Chair stock.......do......	1
Linen.......do......	3	Coat racks.......bale...	1
Silk.......do......	3	Furniture.......cases...	17
Hats and caps.......do......	51	Do.......bales...	32
Do.......trunks...	20	Do.......packages...	19
Do.......packages...	2	Mattresses.......bales...	4

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Furniture—Continued.		Groceries, provisions, etc.—Continued.	
Mattresses.....cases	2	Corn.....barrels	277
Mattresses and pillows.....bales	3	Do.....sacks	96
Mirrors.....cases	5	Do.....pounds	500
Pillows.....bale	1	Canned.....cases	53
Seats (stool).....crate	1	Meal.....half barrels	6
Tables.....do	5	Do.....barrels	12
Do.....bundles	3	Cornstarch.....cases	42
Upholstery.....bales	3	Crackers.....do	77
Washstands.....do	1	Do.....casks	20
Glassware.....cases	44	Do.....half barrels	6
Do.....barrels	106	Currants.....cases	6
Do.....casks	8	Extracts.....do	11
Do.....tierce	1	Figs.....do	1
Do.....package	4	Fish—	
Glass bottles.....cases	6	Salt.....half barrels	12
Grease.....do	1	Do.....barrels	3
Do.....barrels	80	Canned.....cases	93
Do.....tierces	34	Flour.....half barrels	5,126
Groceries, provisions, etc.:		Do.....barrels	290
Almonds.....cases	2	Do.....sacks	410
Apricots.....do	2	Fruit (canned).....cases	38
Asparagus.....do	1	Ginger.....do	1
Bacon.....do	4	Grapes.....do	5
Do.....barrels	2	Groceries.....do	526
Do.....half barrels	6	Do.....sacks	60
Baking powder.....cases	23	Do.....packages	57
Beans.....do	5	Do.....barrels	18
Do.....sacks	109	Do.....casks	3
Do.....half barrels	24	Hams.....cases	6
Do.....barrels	59	Do.....barrels	3
Beef (canned).....cases	101	Do.....half barrels	5
Do.....half barrels	111	Do.....cask	1
Do.....barrels	117	Do.....bales	2
Beef extracts.....cases	4	Herrings.....cases	7
Bread.....half barrels	20	Do.....half barrels	5
Biscuit.....cases	45	Hominy.....case	1
Bluing.....do	2	Hops.....do	1
Do.....kegs	4	Jams.....do	11
Brooms.....bales	30	Lard.....do	430
Do.....bundles	25	Do.....barrels	23
Brushes (scrub).....cases	2	Do.....half barrels	10
Butter:		Do.....packages	62
Canned.....do	59	Lobsters.....cases	9
Fresh.....tubs	27	Macaroni.....do	8
Do.....firkins	9	Do.....packages	6
Butterine.....cases	6	Mackerel.....half barrels	4
Do.....tubs	13	Do.....barrels	3
Candles.....cases	335	Matches.....cases	159
Candlesticks.....do	2	Meal.....half barrels	7
Canned goods.....do	237	Meats (canned).....cases	167
Capers.....do	2	Do.....half barrels	9
Catsup.....do	6	Milk (condensed).....do	143
Cheese.....do	117	Mustard.....cases	3
Clothespins.....do	2	Do.....packages	3
Cocoa.....packages	10	Oatmeal.....cases	5
Codfish.....cases	174	Oats.....do	1
Coffee (ground).....do	2	Do.....barrels	10
Confectionery.....do	36	Olive oil.....cases	10
Do.....pails	26	Olives.....do	66
Conserves.....cases	84	Onions.....crates	24

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.
Groceries, provisions, etc.—Continued.	
Onions.........half crate...	1
Do.........barrels...	38
Oysters.........cases...	144
Do.........barrel...	1
Peaches.........cases...	2
Peanuts.........sacks...	17
Pears.........cases...	5
Pease (canned).........do......	28
Do.........half barrels...	7
Do.........bag...	1
Pepper.........cases...	5
Do.........bags...	2
Pickles.........cases...	220
Pilot bread.........do......	10
Do.........half barrels...	20
Do.........barrels...	60
Plums.........cases...	9
Pork.........half barrels...	11
Potatoes.........crates...	36
Do.........barrels...	84
Preserves.........cases...	35
Provisions.........do......	530
Do.........packages...	193
Do.........barrels...	3
Do.........half barrel...	1
Do.........basket...	1
Prunes.........case...	1
Raisins.........do......	50
Do.........bales...	3
Do.........boxes...	59
Rice.........cases...	5
Do.........half bags...	187
Do.........bags...	760
Salad oil.........cases...	3
Salmon.........do......	69
Do.........packages...	24
Salt.........barrels...	95
Do.........half barrels...	51
Samples.........cases...	2
Do.........barrel...	1
Sardines.........cases...	69
Sauce.........do......	8
Sausages.........do......	11
Seeds.........do......	4
Shad.........half barrels...	2
Shoe dressing.........cases...	2
Shoe polish.........do......	6
Soap—	
Common.........do......	1,952
Toilet.........do......	222
Soda.........do......	10
Do.........barrels...	2
Do.........kegs...	5
Soda crystals.........case...	1
Soup.........do......	4
Paste.........do......	7
Spices.........bags...	9
Do.........chests...	3
Starch.........cases...	32
Stove polish.........do......	4
Groceries, provisions, etc.—Continued.	
Sugar.........cases...	32
Do.........half barrels...	108
Do.........barrels...	58
Succotash.........cases...	4
Sweetmeats.........do......	9
Sirup.........do......	1
Tapioca.........bags...	36
Tea.........cases...	45
Do.........caddies...	28
Tinned meats.........cases...	5
Tomato catsup.........do......	9
Tomatoes.........do......	165
Tripe.........do......	2
Vegetables (canned).........do......	95
Do.........bag...	1
Do.........barrels...	27
Vermicelli.........cases...	5
Do.........packages...	8
Vinegar.........barrels..	25
Worcestershire sauce.........cases...	7
Hardware, cutlery, iron, etc.:	
Adzes.........cases...	4
Do.........package...	1
Agricultural implements.........crates...	2
Do.........bale...	1
Asbestos.........crates...	23
Roofing.........bales...	24
Coating.........barrels...	3
Do.........keg...	1
Axes.........cases...	56
Do.........packages...	16
Do.........bale...	1
Axe handles.........case...	1
Do.........crate...	1
Do.........bundle...	1
Bar iron.........do......	18
Bar lead.........kegs...	2
Beeswax.........packages...	2
Bird cages.........crate...	1
Buckets.........bundles...	54
Do.........crates...	7
Galvanized.........bundles...	45
Calcimine.........case...	1
Candlesticks.........do......	1
Castings.........bundle...	1
Cast iron.........case...	1
Chopping machines.........do......	3
Clothespins.........do......	7
Clothes wringers.........do......	2
Clubs.........do......	10
Climbers and straps.........barrels...	2
Cramp irons.........bundles...	3
Cuspidors.........barrels...	8
Cutlery.........cases...	9
Edge tools.........do.....	15
Enamled goods.........do......	6
Fishhooks.........package...	1
Iron fittings.........case...	1
Do.........barrel...	1
Freezers.........case...	1

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Hardware, cutlery, iron, etc.—Continued.		**Hardware, cutlery, iron, etc.—Continued.**	
Frogs (iron)........	3	Machetes........bales...	3
Furnaces (iron)........	65	Marble........cases...	1
Galvanized iron........case	1	Do........crate...	1
Do........bundles...	207	Metal........cases...	5
Pails........do......	1	Metal strips........package...	1
Pipe........do......	13	Metal ware........cases...	10
Ridging........packages...	5	Do........packages...	3
Sheets........cases...	170	Money drawers........crate...	1
Do........bundles...	100	Nails........kegs...	197
Glue........case...	1	Do........casks...	2
Grate bars........crates...	11	Do........cases...	122
Grindstones........cases...	9	Iron........do......	79
Do........barrels...	7	Pipe........pieces...	42
Do........	33	Round........bundles...	11
Gutters—		Pitchers (iron)........cases...	10
Galvanized........bundles...	20	Pots........	541
Iron........case...	1	Do........crate...	1
Hammers........do......	1	Plant........barrel...	1
Hammocks........bale...	1	Pump fixtures........case...	1
Handles........bundle...	1	Pumps........do......	2
Hardware........cases...	279	Do........bundle...	1
Do........crates...	4	Barrel........crate...	1
Do........trunks...	3	Feed........case...	1
Do........barrel...	1	Pumps and fittings........do......	5
Do........cask...	1	Rakes........dozen...	1
Do........kegs...	5	Ridge caps (galvanized)........cases...	10
Do........packages...	10	Rivets........do......	1
Hardware samples........case...	1	Do........kegs...	18
Harrows........bundles...	3	Rod iron........casks...	6
Hatchets........cases...	4	Sadirons........cases...	3
Hinges........do......	3	Do........casks...	5
Hoes........crate...	1	Sandpaper........cases...	6
Hollow ware........cases...	14	Saws........do......	1
Do........casks...	2	Do........package...	1
Hooks........case...	1	Do........	3
Hoops........bundle...	1	Screens........cases...	12
Hunters' goods........case...	1	Screws and hinges........do......	4
Iron........do......	12	Shears........package...	1
Do........bundles...	17	Shovels........case...	1
Iron bars........do......	20	Do........casks...	10
Ironing boards........bale...	1	Do........bundles...	133
Iron handles........bag...	1	Solder........cases...	1
Iron implements........cases...	6	Spikes........kegs...	30
Iron pots........bundles...	8	Stands (switch)........bundles...	5
Do........nests...	26	Staples........kegs...	456
Iron roofing........bundles...	2	Steel—	
Iron........sheets...	170	Bars........bundles...	4
Iron sheets........case...	1	Plates........do......	39
Do........bundles...	39	Do........pieces..	138
Insulators........case...	1	Strap iron........bundles...	2
Do........barrels...	4	Stoves........cases...	34
Ironware........cases...	55	Do........crates...	39
Kettles (iron)........do......	5	Oil........cases...	2
Kitchen utensils........do......	1	Stove parts........do......	11
Knives........do......	2	Stove pipe........crates...	4
Ladders........bundle...	1	Street lamps........number...	12
Lead bars........cases...	10	Tacks........cases...	2
Levels........do......	1	Tool chests........packages...	2
Locks........do......	3	Tools........cases...	5
Machetes........do......	99	Trucks........crates...	2

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Hardware, cutlery, iron, etc.—Continued.		Leather, etc.—Continued	
Washboards .... bundles	30	Leather ware .... cases	4
Washers—		Lime .... barrels	36
Iron .... keg	1	Slack .... do	5
Lead .... do	1	Lumber, etc.:	
Washtubs .... bundles	4	Boards—	
Wire .... reels	2,300	Rough (1 by 12) .... feet	392
Do .... rolls	3	White pine .... pieces	700
Do .... bales	273	Boxes (wood) .... crate	1
Do .... coils	50	Doors .... bundles	6
Do .... bundles	21	Do	4
Barbed .... spools	3,000	Glazed sash .... bundles	8
Do .... reels	1,130	Lumber .... feet	7[illegible],300
Do .... rolls	1,020	White pine .... pieces	285
Do .... coils	50	Moldings .... do	25
Galvanized .... reels	840	Do .... bundles	13
Wire cloth .... crates	2	Planking .... feet	635
Wire nails .... kegs	5	Sash cords .... bundles	1
Wire rope .... coil	1	Sash weights .... do	5
Zinc .... case	1	Shingles (pine) .... number	4,000
Do .... casks	3	Tank (wood)	1
Sheets .... do	11	Tank bottoms .... bundles	12
Do .... rolls	8	Tank covers .... do	2
Harness, etc.:		Timber .... pieces	116
Collars (mule) .... bales	2	Do .... feet	1,000
Harness .... bags	3	Wooden columns .... pieces	4
Saddlery .... cases	32	Window frames	2
Do .... trunk	1	Window glass .... cases	2
Saddles .... cases	2	Window sash .... do	1
Do .... packages	3	Do .... bundles	1
Hay .... bales	24	Machinery, etc.:	
Do .... half bales	8	Boiler tubes .... number	60
Hops .... bale	1	Connections .... cases	2
Lamps, etc.:		Corn mills .... crates	17
Chimneys .... cases	2	Cream separators .... do	1
Do .... barrels	13	Cylinders .... case	1
Do .... casks	6	Engine parts .... do	1
Globes .... case	1	Journals .... do	1
Do .... barrels	8	Machinery .... do	22
Lamps .... cases	[illegible]9	Do .... crates	4
Do .... barrels	7	Do .... pieces	2
Lamps and chimneys .... barrel	1	Propellers .... wheels	2
Lamp ware .... cases	45	Sewing machines .... crates	307
Do .... casks	35	Shellers .... case	1
Do .... tierces	2	Do .... crates	4
Do .... barrels	87	Musical instruments, etc.:	
Lanterns .... cases	226	Accordions .... cases	3
Lantern globes .... barrels	10	Mouth organs .... do	1
Shades .... do	3	Music boxes .... do	1
Wicking .... cases	3	Musical instruments .... do	3
Do .... bales	3	Musical sundries .... do	2
Leather, etc:		Piano	1
Bags .... cases	2	Oakum .... bales	66
Belts .... do	4	Oils:	
Life .... package	1	Almond .... cases	4
Boots and shoes .... cases	185	Cotton-seed .... barrels	39
Do .... trunks	7	Cylinder .... do	12
Shawl straps .... case	1	Kerosene (10 gallon cases) .... cases	17,356
Slippers .... package	1	Linseed .... barrels	13
Straps .... cases	2	Do .... casks	2
Leather .... rolls	2	Do .... drum	1

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Oils—Continued.		Rubber:	
Machine...cases	14	Belting...bale	1
Do...barrels	6	Goods...cases	7
Palm...do	59	Do...bale	1
Sweet...cases	4	Do...bundle	1
Unnamed...do	6	Packing...cases	2
Paints, etc.:		Shoes...do	16
Colors...do	15	Springs...package	1
Paints...do	91	Safes	2
Do...casks	2	Scales...cases	14
Do...kegs	28	Specie...packages	12
Do...barrels	3	Do...keg	1
Dry...kegs	42	Talc...bags	160
Oil...case	1	Tallow...tierces	277
Red lead...kegs	26	Tar...cases	4
White lead...case	1	Do...barrels	10
Do...kegs	26	Coal...tins	2
Turpentine...cases	66	Thermometers...package	1
Do...barrels	4	Tin bars...case	1
Do...drum	1	Tin plate...do	42
Turpentine oil...do	1	Tinware...do	34
Varnishes...cases	20	Do...barrel	1
Do...keg	1	Do...kegs	2
Paper, stationery, etc.:		Do...bale	1
Copy books...case	1	Tobacco, etc.:	
Copying press	1	Cigarettes...cases	13
Envelopes...cases	3	Cigars...do	70
Inks—		Do...packages	23
Printing...do	2	Cigars and cigarettes...cases	9
Do...cask	1	Pipes...do	1
Do...keg	1	Tobacco...do	81
Writing...cases	66	Do...bales	34
Packing...do	129	Do...half bales	46
Paper—		Do...sacks	18
Packing...packages	20	Do...caddies	28
Straw...bundles	29	Do...racks	12
Do...bales	5	Leaf...bales	80
Wall...cases	2	Do...half bales	46
Wood...bales	3	Manufactured...cases	29
Wrapping...cases	5	Do...racks	19
Do...bundles	29	Smoking...cases	6
Do...bales	4	Toys, etc.:	
Writing...cases	29	Cocoanut shells...case	1
Do...packages	3	Dolls...do	2
Bags...bundles	4	Firecrackers...crates	5
Sacks...do	14	Fireworks...packages	24
Paper ware...cases	3	Marbles...cases	2
Pens...do	4	Do...crate	1
Slates...do	2	Tops...package	1
Stationery...do	13	Toys...cases	18
Tablets...do	2	Wines, liquors, etc.:	
Wax...do	2	Alcohol...barrels	251
Personal effects...do	8	Anisette...demijohns	40
Do...trunks	4	Apollinaris...cases	2
Phonographs...crates	2	Bottled...barrels	11
Photographers' goods...cases	6	Aërated water...cases	17
Pitch...barrels	9	Do...barrels	10
Plants...case	1	Do...cask	1
Printing type...cases	5	Beer (bottled)...cases	358
Refrigerators...crate	1	Do...barrels	927
Resin...barrels	368	Do...casks	20

Imports for the year ending June 30, 1895—Continued.

Articles.	Number.	Articles.	Number.
Wines, liquors, etc.—Continued.		Wines, liquors, etc.—Continued.	
Beer (bottled)......crate...	1	Rum......cases...	26
Sample......case...	1	Do......hogsheads...	6
Bitters......do......	29	Do......casks...	13
Do......kegs...	2	Do......puncheons...	20
Brandy......cases...	305	Do......quarter casks...	46
Do......barrels...	50	Do......packages...	20
Champagne......cases...	10	Do......demijohns...	93
Do......kegs...	3	Sarsaparilla......barrels...	3
Claret......cases...	76	Sherry......cases...	21
Cognac......do......	619	Soda water......barrels...	5
Congress water......barrels...	14	Spirits......cases...	193
Curaçao......cases...	10	Do......puncheons...	5
Gin......do......	2,017	Do......barrels...	85
Do......hogsheads...	2	Vermouth......cases...	390
Ginger ale (bottled)......cases...	118	Do......barrel...	1
Do......barrels...	109	Whisky......cases...	503
Hock......cases...	2	Do......barrels...	44
Kummel...... do......	2	Wine......cases...	1,567
Lemonade......do......	2	Do......barrels...	61
Liquor......do......	352	Do......hogshead...	1
Do......barrels...	27	Do......casks...	52
Do......demijohns...	55	Do......demijohns...	235
Mineral water......cases...	100	Orange......case...	1
Do......barrels...	41	Port......do......	4

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *February 26, 1896*

COST OF GOODS DELIVERED IN NICARAGUA.

One of the principal importers at San Juan del Norte has completed an inventory of the merchandise in his store and warehouse, which shows the actual cost of each article. These figures, which include cost price, freight and insurance charges, cost of lighterage and drayage, and losses by leakage and breakage, are given below, as being of interest to American merchants and manufacturers:

Articles.	Quantity.	Cost in United States currency.		
Arms and ammunition:				
Caps......	Hundred......	$0.06	to	$0.10
Cartridges......	Thousand......	5.50	to	11.50
Gunpowder......	Pound......	.27	to	.40
Revolvers......	Each......	.60	to	10.90
Rifles......	......do......	2.15	to	8.30
Shotguns—				
Single-barreled......	......do......	2.40	to	4.58
Double-barreled......	......do......	3.10	to	9.60

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Baskets, brushes, etc.:		
Baskets—		
Fancy	Each	$0.05 to $0.62
Market	do	.07 to .30
Work	do	.09 to .60
Brushes—		
Bath	Dozen	.12 to .45
Coat	Each	.15 to .30
Hair	do	.09 to .40
Paint	Dozen	.62½ to 6.25
Scrub	Each	.03 to .13
Tooth	Dozen	.80 to 1.35
Whitewash	Each	.40
Whisk brooms	Dozen	.40 to 1.10
Books, etc.:		
Albums	Each	.20 to 1.70
Cards (playing)	Gross	4.60 to 24.00
Photograph frames	Each	.03 to 1.12
Clocks, jewelry, etc.:		
Bracelets (plated)	Pair	.42 to 1.65
Brooches—		
Washed and plated	Each	.06 to 2.16
Black	do	.16 to .45
Butter knives	do	.10
Chains (rolled plate)	do	.40 to 1.55
Clocks	do	.30 to 2.90
Coffee pots (plated)	do	1.40 to 6.30
Collar buttons	Dozen	.02 to .48
Combs	do	.40 to .90
Cruet stands	Each	.45
Cuff buttons	Pair	.09 to .60
Cuff holders	Gross	1.60
Earrings	Pair	.06 to 1.50
Eyeglasses	Each	.18 to 1.70
Forks (plated)	Dozen	2.40
Hairpins—		
Fancy	Each	.05¼ to .60
Plain	Gross	.13 to 1.60
Knives (plated)	Dozen	1.05 to 2.10
Penknives	do	1.40 to 2.12
Pins (fancy)	Each	.03 to .60
Rings	do	.04 to .55
Scarf pins	do	.02 to .62
Shirt studs	do	.02 to .25
Do	Set	.13 to .60
Tablespoons (plated)	Dozen	1.90 to 2.40
Teaspoons (plated)	do	.85 to 1.70
Watches—		
Nickel	Each	.38 to .95
Silver	do	3.50 to 5.60
Men's gold-filled	do	6.30 to 9.40
Ladies' gold-filled	do	5.25 to 8.10
Clothing, haberdashery, etc.:		
Boys suits—		
2 pieces	Suit	.60 to 2.15
3 pieces	do	.75 to 2.85
Broadcloth	Yard	1.45
Caps	Dozen	1.25 to 3.00
Collars	do	.24 to 1.28
Diagonals	Yard	1.45

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Clothing, haberdashery, etc.—Continued.		
Drawers (wool)	Dozen	$2.50 to $5.50
Hats—		
Derby	Each	1.15
Felt	do	.55 to 1.87½
Panama	Dozen	22.00 to 35.20
Straw	do	3.75 to 7.80
Hose	do	.24 to 3.37½
Men's suits	Each	2.20 to 6.37½
Neckties	Dozen	.36 to 5.30
Nightshirts	do	6.40 to 7.25
Rubber coats	Each	2.55 to 3.10
Shirts—		
Fancy	Dozen	3.35 to 17.35
Woolen	Each	.45 to 1.10
Shoestrings	Dozen	.04 to .20
Suspenders	do	1.05 to 4.12½
Trousers	Pair	.70 to 2.08
Common	Dozen	3.60 to 5.00
Tweed	Yard	1.40
Umbrellas	Dozen	5.25 to 25.30
Undershirts	do	2.50 to 3.77
Cordage, etc.:		
Rope	Pound	.08 to .10½
Twine	do	.07½ to .22
Crockery, etc.:		
Bakers'—		
3-inch	Dozen	36
8-inch	Each	.10
Bowls	do	.02 to .06
Breakfast plates (7-inch)	Dozen	.36 to .54
Covered dishes	Each	.13 to .22
Creamers	do	.03 to .09
Cups and saucers	Dozen	.33 to .85
Cuspidors	Each	.13 to .30
Dinner plates (8-inch)	Dozen	.40 to .72
Individual butters	do	.04 to .15
Mugs	Each	.06 to .10
Pie plates	Dozen	.22 to .40
Platters—		
4-inch	do	.32 to .54
8 to 16 inches	Each	.04 to .80
Soup plates	Dozen	.35 to .72
Tea plates	do	.32 to .54
Dry goods, etc.:		
Alpaca	Yard	.14
Antimacassars	Dozen	1.15 to 3.50
Lace	do	1.62 to 1.80
Armlets	do	.28
Artificial flowers—		
Sprays	Each	.12
Wreaths	do	.12 to 1.80
Baling cloth	Yard	.07½
Blankets	Each	.85 to 4.10
Bodices (silk)	do	3.09
Braid	Dozen spools	.30
Buckles	Gross	.10 to .92
Bunting	Yard	.09 to .11½
Buttons	Gross	.28 to 1.07
Canvas	Yard	.13 to .40

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Dry goods, etc.—Continued.		
Cashmere	Yard	$0.19
Corduroy	do	.36
Corsets	Each	$0.52 to 2.50
Cottons	Yard	.04 to .07½
Créton	do	.12½
Crochet cotton	Gross	5.17
Curtain lace	Yard	.09
Dress stuffs	do	.07½ to .15
Drills	do	.11
Elastic	Piece	1.00
Embroidery	Yard	.05½ to .07½
Do	Piece	.17½ to 7.92
Do	Box	4.58
Fans	Each	.02 to 1.12½
Feathers	do	.29 to .42
Flannel	Yard	.57
Flannelette	do	.07½
Ginghams	do	.06
Gloves (silk)	Dozen	2.60 to 4.75
Handkerchiefs	do	.28 to 4.50
Hank cloth	Yard	.14
Hats (girls')	Each	.23 to .35
Hoods (infants')	do	.45 to .52
Hooks and eyes	Dozen	.20 to .42
Do	Gross	.40
Hose—		
Girls'	Dozen	.67 to 1.18
Women's	do	.83 to 1.35
Jackets—		
Cotton	do	1.75
Alpaca	do	7.50 to 10.85
Silk	Each	1.45 to 2.50
Jeans	Yard	.12
Laces	do	.02½ to .21
Do	Piece	.25 to .92
Do	Box	3.90 to 12.30
Lawns—		
Cotton	Yard	.04
Linen	do	.15¾
Linen	Piece	.60
Matting	Yard	.25
Mats	Each	.80
Mosquito netting	Yard	.14 to .60
Muslins	Piece	.70 to .75
Napkins	Dozen	.75 to .88½
Needles	Gross	2.28
Crochet	do	1.70
Oilcloth	Yard	.20
Do	Piece	1.75
Parasols	Each	2.00
Pins	Gross	.17½ to 1.20
Powder (face)	Dozen	1.60
Prints	Yard	.04½ to .06½
Purses	Each	.10 to .17
Ribbons	Piece	.37½ to 2.50
Robes	Each	1.72 to 2.08
Infants'	do	.48 to 1.17
Satinets	Yard	.38 to .43
Serges	do	.28 to 1.26

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Dry goods, etc.—Continued.		
Shawls (wool)	Each	$1.25 to $1.95
Sheetings	Yard	.14½
Shirtings	do	.05
Silesias	do	.05 to .09
Silks	do	.44 to 1.94
Stockings (children's)	Dozen	.50 to 1.40
Tablecloths	Yard	.55
Threads	Dozen	.35 to .87
Do	Gross	4.10
Ticking	Yard	.07½
Towels	Dozen	.30 to 2.12
Turkey red	Yard	.06½
Undershirts (women's)	Dozen	1.65
Velveteens	Yard	.12½ to .24
Whalebone	Gross	1.24
Wool	Ounce	.05
Furniture:		
Armchairs (cane)	Dozen	19.00
Child's rockers (cane)	do	12.00 to 13.50
High chairs (cane)	do	12.65
Mirrors (hand)	do	.21 to .73
Parlor chairs (plush)	Each	7.00
Rockers—		
Cane	do	1.00
Plush	do	7.00
Toilet stands	Each	1.00
Umbrella stands	do	5.00
Glassware (plates)	Dozen	1.00 to 3.37½
Groceries, etc.:		
Allspice	Pound	.08½
Apples	Gallon	.70
Apricots	Case	2.25
Arrowroot	Tin	.90
Baking powder	Pound	.20
Barley	do	.04½
Do	Tin	.62½
Bluing	Box	.81
Butter	Pound	.22½
Candles	Box	2.62
Carrots	Dozen cans	1.12
Cheese—		
American	Pound	.13
Edom	Case	7.65
Citron	Tin	.55
Peel	Pound	.14
Cod roe	Tin	.19
Coffee	Pound	.14
Corn	do	.01¾
Do	Dozen	.80
Cornstarch	Box	2.06
Crackers	Pound	.03¾ to .08
Essences	Dozen	.38 to 1.80
Fruit pudding	Case	2.12
Flour	Half barrel	2.85
Ginger	Pound	.13
Hams	do	.12
Irish stew	Dozen	2.09
Jams	do	1.70 to 2.10
Jellies	do	1.15 to 1.50

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Groceries, etc.—Continued.		
Lard	Pound	$0.08
Lima beans	Dozen	1.20
Lobsters	do	2.15
Macaroni	Pound	.09½
Do	Tin	.62
Milk	Dozen	$0.90 to 1.15
Mustard	Bottle	.06½
Nutmegs	Pound	.61
Oatmeal	Tin	.62
Olives	Dozen	.75 to 1.70
Orange peel	Pound	.42
Oysters	Dozen	1.00
Pears	do	1.50
Pease	do	.95
Petits pois	Case	8.45
Pepper	Pound	.10 to .17
Pickles	Bottle	.08 to .23
Potatoes	Barrel	3.15
Potted meats	Tin	.04½ to .08
Prunes	Case	12.35
Do	Bottle	.19
Raisins	Tin	.70 to .78
Rice	100 pounds	4.15
Do	Sack	2.80
Sago	Pound	.04¼
Do	Tin	.60
Salad oil	Case	2.18 to 2.75
Salmon	Dozen	1.05
Salt	Sack	.02¼
Sardines	Case	2.40 to 4.65
Sauces	do	16.90
Sausage	Pound	.18 to .25
Soaps—		
Bar	Case	1.21 to 1.78
Toilet	Dozen	.21 to 1.75
Powder	Case	2.90
Sugar	Pound	.07½
Sugar plums	Case	2.22
Tapioca	Tin	.77
Tea	Pound	.17 to .35
Tomatoes	Dozen	.80 to .90
Turnips	Case	2.05
Hardware, etc.:		
Axes	Each	.62½
Axe handles	do.	.15
Basins—		
Agate	do	.11½
Tin	Dozen	.30 to 1.00
Belts and sheaths	do	1.80
Bolts and nuts	do	.24 to .48
Do	Gross	2.90
Brads	Package	.04½
Buckles	Gross	.10
Buckets	Each	.15
Candlesticks	Dozen	.20 to 1.10
Cash boxes	Each	.05 to .52
Cocks (brass)	do	.95
Coffee mills	do	.40
Coffee pots	do	.15

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Hardware, etc.—Continued.		
Corkscrews	Each	$0.22½
Corrugated iron (7 to 9 feet)	Sheet	$0.54 to .70
Dippers	Dozen	.52
Ewers and basins	Set	.62½
Faucets (wood)	Each	.02 to .08½
Files	Dozen	.36 to .70
Fishhooks	1,000	.65 to 1.25
Fish line	Pound	.19
Forks (iron)	Dozen	.12 to .24
Funnels	do	.16 to 2.50
Garden pans	Each	.70
Grindstones	Pound	.02
Hammers	Dozen	1.36 to 4.18
Hatchets	do	4.33
Hinges	do	.20 to .89
Hooks—		
Wall	Gross	.39
Ceiling	Dozen	.27 to .62½
Hooks and staples	Gross	.26
Do	Dozen	.21
Measures	Each	.07½ to .20
Key holders	Dozen	.05½ to .48
Kettles	Each	.37½
Knives (butcher)	Dozen	1.12½
Locks	do	.96 to 2.82
Machetes	do	5.60 to 10.40
Nails	Pound	.16
Do	Keg	2.10 to 7.40
Do	Box	2.50
Nutmeg graters	Dozen	.18
Oilers	do	.15 to 2.00
Pans—		
Tin	do	.12 to 3.60
Fry	Each	.13
Pudding	Dozen	.30 to .50
Plates (tin)	do	.15 to .30
Pots	Each	.18 to .92
Rattraps	do	.06 to .15
Razors	Dozen	6.00
Sadirons	Pound	.04
Saws	Dozen	13.50 to 15.45
Scoops	do	.48
Screws	Gross	.21 to .40
Sewing palms	Each	.18
Shears	do	.06½ to .62
Shoemaker sets	Set	.75
Shovels	Dozen	6.00
Spoons (tin)	do	.06½ to .30
Staples	Keg	3.15
Stoves—		
Cook	Each	16.25
Oil	do	.80 to 1.50
Tape measures	do	.02 to 1.50
Telegraph climbers	Pair	.83
Trays	Each	.08 to .54
Washboards	Dozen	1.87
Washers	Pound	.05½
Wire—		
Picture	Roll	.09
Fence	do	3.17

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Lamps, etc.:		
Burners	Dozen	$0.33 to $4.35
Chimneys	Each	.04½ to .07½
Globes	do	.13 to .28
Lamps	do	.15 to 4.00
Student	do	2.50 to 3.25
Lanterns	do	.30 to .37½
Shades	do	.18 to .35
Wicking	Pound	.15
Wicks—		
Common	Yard	.03 to .05½
Do	Gross	.28 to .72
Rochester		.50 to 1.50
Leather, etc.:		
Belts, women's	Each	.37½ to .55
Blacking (Acme)	Dozen	1.00
Common	Tin	.03½
Do	Case	2.70
Courier bags	Each	.80 to 2.78
Holsters	do	.30
Ladies' handbags	do	.24 to 1.32
Machine straps	do	.06½
Polish	Dozen	1.75
Rubber boots	Pairs	3.00
Rubbers	do	.37½
Shoes:		
Children's	do	.62½ to 1.25
Men's	do	.75 to 2.50
Women's	do	.85 to 2.75
Canvas	do	.73
Cloth	do	1.05
Wool	do	.59 to 1.00
Shoe strings	Gross	.90 to 2.50
Slippers—		
Leather	Pair	.35 to .70
Velvet	do	.62 to 2.70
Lumber, etc., dressed boards (16 by 1)	Each	.70
Machines (sewing)	do	19.67
Musical instruments, etc.:		
Accordions	do	1.06 to 2.50
Mouth organs	Dozen	.36 to 1.00
Musical boxes	Each	8.80
Strings	do	.06 to 1.17
Oils, etc.:		
Castor	Gallon	.62 to .78
Kerosene	Case of 10 gallons	1.65 to 1.90
Linseed	Gallon	.39 to .45
Machine	do	.14 to .38
Do	Dozen bottles	.50 to .75
Turpentine	Gallon	.37
Paints, etc.:		
Colors (in oil)	Pound can	.07 to .28
House paints—		
White	Gallon	.90
Yellow	do	1.25
Red	do	1.70
Slating	do	2.60
Varnish	do	1.85
Paper, stationery, etc.:		
Billheads	Ream	1.50
Cards (Christmas)	Gross	.30 to 3.20

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Paper, stationery, etc.—Continued.		
Envelopes	1,000	$1.05 to $2.40
Erasers	Dozen	.09
Inks	Quart	.28 to .40
Do	Dozen small bottles	.18 to .30
Carmine	Dozen	.70 to 1.20
Inkstands	Each	.20 to .36
Letter books	do	1.50
Manila	Pound	.06
Notebooks	Dozen	.22 to 1.10
Pads	do	.30 to 1.00
Lead pencils	do	.03 to .31
Pencil protectors	Gross	2.25
Penholders	Dozen	.05 to .20
Straw	Ream	.15 to .42
Rules	Each	.02½ to .69
Wax	Pound	.20 to .25
Writing paper—		
Fancy	Box	.25 to .85
Note	Ream	.70 to .85
Foolscap	do	1.80
Tobacco, etc.:		
Cigar holders	Each	.03 to .15
Cigars	1,000	7.50 to 40.00
Pipes	Dozen	.05 to 4.20
Tobacco—		
Chewing	Pound	.18 to .40
Smoking	do	.13½ to 1.00
Toys:		
Dolls	Each	.05 to .53
Do	Dozen	.15 to .31
Games and blocks	Each	.08 to 1.00
Iron toys	do	.01 to .20
Wooden toys	do	.00¼ to .60
Wines, liquors, etc.:		
Alcohol	Barrel	16.50
Ale	Dozen pints	1.15
Do	Dozen quarts	1.68
Anisette	Dozen bottles	1.62 to 4.92
Do	Gallon	.45 to 1.85
Apollinaris	Case	11.25
Beer	Case of 1 dozen pints	.87 to 1.10
Do	Barrel of 10 dozen pints	9.00 to 10.30
Bitters	24 pints	3.50 to 8.75
Brandy—		
Hennessy	Case	7.80 to 10.40
Essence	Pound	3.37
Champagne	12 quarts	5.36 to 20.20
Do	24 pints	11.25 to 19.00
Cherry cordial	Case	2.62 to 3.75
Claret	Case of 12 bottles	2.20 to 4.75
Do	Gallon	.42 to .98
Cognac	Case of 12 bottles	2.20 to 7.65
Curaçao	do	3.62
Eau de vie de Dantzick	do	3.62
Gin	do	1.16 to 2.34
Do	Case of 15 bottles	1.60 to 2.70
Ginger ale	10 dozen pints	12.07
Hock—		
Still	12 bottles	4.60 to 9.00
Sparkling	do	6.66 to 11.50

Cost of goods delivered in Nicaragua—Continued.

Articles.	Quantity.	Cost in United States currency.
Wines, liquors, etc.—Continued.		
Kummel	12 bottles	$2.55 to $3.25
Lemonade	do	1.18
Madeira	do	2.25 to 3.90
Maraschino	do	9.50
Moselle—		
Still	do	4.60 to 9.00
Sparkling	do	6.66 to 11.50
Oporto	do	5.60
Port	do	2.60 to 4.20
Do	Gallon	.52 to .62½
Porter	12 quarts	1.72
Do	12 pints	1.12
Red wine	12 bottles	2.10
Rum	do	2.16 to 4.20
Do	Gallon	.32 to 1.10
Sauterne	12 bottles	2.10 to 3.20
Schnapps	do	1.80 to 2.95
Sherry	do	2.60 to 4.38
Do	Gallon	.62½
Stout	12 quarts	1.72
Do	12 pints	1.20
Vermouth	12 bottles	2.10 to 4.05
Do	Gallon	.47 to .62½
Whisky—		
American	12 bottles	3.15 to 4.75
Do	Gallon	.42 to 1.15
Irish	12 bottles	2.45 to 4.20
Scotch	do	2.20 to 4.20
Do	Gallon	.57 to 1.30
Irish	do	.57 to 1.30

The favorite brands of flour are "Potomac," sold by Holt & Co., of New York, and "Pickwick," sold by J. B. Camors & Co., of New Orleans.

Anheuser-Busch beers are sold in Bluefields, but have not been sold in San Juan del Norte since the suspension of work on the Nicaragua Canal. English, German, and American beers are imported, those bottled by H. Clausen & Son, Obermeyer & Liebmann, and Joseph Schlitz being the principal American beers. Jung, of Cincinnati, and the Budweiser Brewing Company, of Brooklyn, have introduced their beers.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *March 18, 1896.*

EXPLANATORY.

Our merchants desire to know the kinds and quantities of goods sold in foreign countries, the cost of such goods delivered to the dealers, and the prices for which they are commonly sold at retail. With fairly reliable information of this character regarding any country, an American merchant or manufacturer, after consulting railway and steamship tariffs, ought to be able to determine whether he can successfully compete for a portion of that country's trade. The foregoing report is not a mere copy of the inventory mentioned in it. The inventory fills a small book and its items are neither grouped nor listed as the same items appear in the report.

The inventory was taken in the usual manner, the clerks commencing at one end of the store or warehouse and listing the articles in the order in which they were shelved or stored, canned tomatoes being as apt as anything else to be listed immediately under an entry of machetes or hairpins.

All the inventory entries were copied and then slipped. The slips were arranged alphabetically, and, to make the report embrace nearly everything that is imported here, the cost prices of articles not mentioned in the inventory were obtained from other merchants handling such articles.

I respectfully suggest that there is not so much difference between freight rates to San Juan del Norte and freight rates to other Caribbean ports as to render a table of cost prices of goods in San Juan del Norte of no value to American merchants anxious to carry American trade into other countries touching the Caribbean.

The goods sold in Nicaragua, too, are not unlike the goods sold in the other Central American States and in the northern part of South America.

Believing, as the Department does, that the manufacturer who, in a small way, makes a specialty of scrub brushes, or some other modest manufacture, is as much interested as the barbed-wire or cotton manufacturer in knowing what his wares might be sold for in these countries, I have deemed it proper to include all articles finding a market here.

THOMAS O'HARA,
Consul.

San Juan del Norte, *May 4, 1896.*

PORT OF SAN JUAN AND THE SAN JUAN RIVER.

I inclose herewith a translation of a communication published in El Ferrocarril of April 18, 1896, in relation to the port of San Juan del Norte and the San Juan River.

THOMAS O'HARA,
Consul.

San Juan del Norte, *May 4, 1896.*

San Juan del Norte, *April 8, 1896.*

To the Editor of El Ferrocarril, Bluefields.

In the columns of El Diario Nicaraguense appears a communication contributed by one who contends that preference should be given the port of San Juan del Sur as being the one best calculated for the commerce of the eastern division of the Republic.

The port of Corinto being closed for reasons which need not be dilated upon, the shallowness of the San Juan River is argued as an insurmountable objection to such preference being given to San Juan del Norte. Observing the manifest tendency of the people of the interior to patronize any route whatsoever having the Pacific as its terminus, it would occur to a foreigner that vast and important must be the social, political, and commercial intercourse which this country maintains with those whose shores are washed by the ripples of that ocean. Thus has it always been the policy of previous administrations to be in quest of a route on the Pacific side, forgetting, with unjustifiable heedlessness, that which Dame Nature has gratuitously endowed the country with.

Considering the interest which has always been evinced in Nicaragua toward giving preference to the ports on the Pacific, one would imagine that her commerce is principally connected with China, Japan, Australia, and the Philippine Islands. It may be that in those countries the products of Nicaragua—her coffee, rubber, indigo, hides, etc.—are consumed and used; that their people accommodate us with credit in exchange for those products, and that they supply us with their textile fabrics for our clothing, boots, machinery, and agricultural implements. Should this not be the case, however, the logic of such a course may only be explained by showing either that on the Atlantic side, there is not a convenient way, or, if a way, that it is fraught with insurmountable difficulties. On the other hand, if such difficulties exist, they are nothing but natural impediments which no one has ever cared to remove or endeavored to improve.

In Costa Rica, several millions of dollars have been spent in establishing communication with the Atlantic seaboard. In Nicaragua, where a natural and available route exists, all eyes are turned toward the Pacific. Such an anomaly may be logical to those capable of comprehending it, but I must confess the absence of such capacity.

But it is not my purpose just now to deal with what might have been done or what has been left undone; nor to discuss whether the commercial interests of Nicaragua are with China and Japan or with Europe and the United States. I have been requested to contribute suggestions looking toward the amelioration of the lamentable condition and gloomy future of San Juan del Norte, and I will now do so in the way and manner compatible with the degree of comprehension bestowed upon me by the All Wise.

The alluring prospect of the more or less immediate resumption of the Nicaragua Canal works should not lull into a slumber of illusion those who, full of hope, deprive themselves of everything and indulge in the expectation of what might occur. * * * I am of the opinion that, with or without a canal, the urgent requirement of San Juan del Norte is unquestionably the improvement of the harbor.

I mean by this that the bar should be given a depth of 15 to 20 feet. With a dredge which could be obtained in England for from $50,000 to $75,000 (gold), such a desirable result would be easily and immediately attained. The opening of the port would, as a natural consequence, develop the agricultural resources of this locality, inasmuch as extensive tracts of land of unquestionable fertility and in close proximity to the port could immediately be converted into magnificent plantations of exportable products.

The present deplorable aspect and sad condition of San Juan del Norte might, with energetic labor and active enterprise, be completely transformed into one of satisfaction and joy at the manifestation of such signs of prosperity and well-being.

Of the exportable fruits, in the cultivation of which capital could more especially be invested, a marked preference would undoubtedly be given to the banana, and the reasons therefor are obvious. There are lands easily approachable, where the cost of production would be a mere trifle; and these conditions are naturally and essentially required for the cultivation of that fruit. I know of what I treat, and my assertion is not made at random. I have as much knowledge as any of the planters in Rama of the cultivation of the banana.

The entry at San Juan del Norte being made practicable to steamers of 14 to 16 feet draft, the exportation of bananas within three years would amount to nearly one million bunches. I entertain the hope that capital will be available, even in Nicaragua, to bring about the realization of such an enterprise. The land would cost nothing, and if perchance the Government should impose a tax thereon, so insignificant would it be that it would have no influence on the results, when such results, whether good or bad, were determined.

It should be borne in mind that what remains of commerce to-day at San Juan del Norte is due to the limited local trade still existing between that port and the interior of the Republic through the San Juan River. This trade could be increased considerably if certain natural impediments to the rapid transit of goods to the interior were removed. I am of the opinion that with a more rapid and effective means of transportation, the port of San Juan del Norte would, ere long, became the most important in Nicaragua. To explain this is not difficult. Notwithstanding the obstacles to be contended with at present, the rates of freight that way are the cheapest in the country. With navigation on the river facilitated, the actual trade would increase in proportion to the facilities and conveniences available until almost all the trade of the Republic with Europe and the United States could be diverted that way.

The impediments to navigation on the San Juan River are not of so serious a nature as to render illusory or hopeless the task of overcoming them—if not completely, at least by lessening them in such a manner that they might no longer be an obstacle to the requirements of an increasing trade and of a service of transportation adequately equipped.

From what has been said, it can be understood that, with proper and convenient port facilities, San Juan del Norte could attain a desirable status of prosperity, inasmuch as the development of its agricultural resources alone would be sufficient to enhance its commercial activity.

If with the foregoing is considered the present local trade with the interior of the Republic, as well as the increase to that trade consequent upon the improvements in navigation on the river, it may not be venturesome to affirm that at no distant date, San Juan del Norte would become the most prosperous locality in this country.

In my judgment, the opening of the port is the point of paramount interest. This achieved, San Juan del Norte (without relying on extraneous aid) could hold its own and insure its existence by virtue of an agricultural production which could be developed in the extensive tracts of fertile and accessible lands, adaptable to the cultivation on an extensive scale of bananas, the fruit which undoubtedly would be preferred by all those who would desire to invest capital and obtain quick returns and positive gain. Attention might also be given to the cacao bean, a fruit which can be grown in these regions of a very superior quality, with the advantages of finding in the country itself a very good market and favorable prices. The outlet for these products would be by the San Juanillo, whose navigation offers no difficulty whatever to tugs and barges, and where there is never less than 7 to 10 feet of water.

It may not be impossible to obtain Government assistance of a fixed amount to help purchase the dredge and to extend the breakwater built by the canal company, thanks to which we have been able during these later years to have more or less water at the bar, according to the season of the year.

The commerce of this port with the outer world can be estimated to-day at 6,000 to 7,000 tons of cargo annually. With navigation on the San Juan River improved, this amount would increase to 20,000 tons; in no event would it be below 15,000 tons.

This should be boldly urged. Each of the former administrations committed a grave mistake. They neglected and abandoned the natural as well as the most advantageous route in the country—that of the Atlantic—and, latterly, Nicaragua has borne the consequences of so inexplicable a blunder.

I am a foreigner, without any material interest in the country. My sojourn therein may be very limited; consequently, I am not actuated or guided by any particular motive or interest.

In the latest commercial statistics of this country, San Juan del Norte hardly represents one-fifth of her imports and exports, whereas, by the natural order of things, that place should be the principal artery in the commercial life of Nicaragua.

I believe that a tax of 15 cents per quintal on goods imported and produce exported would provide the means necessary for the maintenance of the dredge and the payment of its value. This estimate is based on the present commercial statistics. Besides, it can safely be asserted that, with the entry of steamers at this port, the cultivation and export of bananas would create a revenue of no mean importance, if a moderate export tax be imposed, as, for instance, 2 cents per bunch, a rate which should never be increased.

Therefore, if to the opening up of the port are to be added the improvements to navigation on the San Juan River and the better condition of the enterprise carrying on the traffic thereon—the latter the natural consequence of the former—I firmly believe that such an undertaking would yield a revenue of the highest importance, that the capital invested therein would produce a most lucrative remuneration, and that San Juan del Norte would soon become a focus of prosperity and well-being.

The difficulties to navigation on the San Juan River are not of any great importance. Undoubtedly they have been exaggerated, and are much less than what they are represented to be. As far as I can understand, the whole thing may perhaps consist in removing certain rocks in the rapids at Machuca, Las Balas, and El Toro, and an operation of this kind intrusted to an expert and by means of dynamite is neither difficult nor costly.

It is indeed painful to observe how, till this day, this route, which is the natural outlet on the Atlantic side of the country, has been cast into oblivion. I think, nevertheless, there is time yet, or, to put it better, there is always time to rectify the evils of the past. If ever they are corrected, I shall have the satisfaction of having contributed in some way toward the advancement of Nicaragua, whose prosperity and good fortune I desire with all my heart.

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A FOREIGNER.

THE PORT OF BLUEFIELDS.

Referring to my dispatch of May 4, I have the honor to herewith inclose a clipping from the Bluefields Recorder of May 2, 1896.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 15, 1896.*

The arguments adduced by our correspondent "Foreigner," of San Juan del Norte, and published in our last issue, in support of his plea for the deepening of that harbor, thereby making it accessible to ocean vessels, could, to a large extent, be applied to the port of Bluefields, which is slowly but surely being filled up, there being no contrivance or apparatus to remove the silting which accumulates continually. Nor is any effort being made to remedy an evil which, although buried under the waters of the lagoon, is none the less seriously felt by those directly concerned. Should the prevailing incuriousness continue for any length of time, traders will have no other alternative but to abandon this port completely and seek other places more easy of access and where expenses are, as a matter of course, proportionately less.

The opening up of the neighboring harbors at Puerto Cortez and Puerto Barrios may divert a large share of our fruit trade, if we do not make it our business to come up to their standard. These ports, that they might be on a par with Colon, Port Limon, and Bocas del Toro, will, we understand, be given great depth, and thus permit of vessels of all drafts to be berthed to the wharves. The advantages of this to shippers of produce, fruit especially, are obvious. As the wharves will be but the prolongation of the railways, which, at both the two first-named places will lead to the interior, the fruit will be taken from the cars to the vessel and a lot of unnecessary handling dispensed with. On the other hand, when it is taken into account that Puerto Cortez and Puerto Barrios are very much nearer than ours to New Orleans and Mobile, that the banana is being cultivated in these localities to an enormous extent, it stands to reason that we shall inevitably be left in the lurch, if timely measures be not taken to improve our situation.

It is useless blinking the fact that unless such measures are taken, our fruit trade will inevitably dwindle to its most simple expression. A large proportion of the planters depend on foreign buyers; these, when they shall perceive that other parts, in closer proximity with the United States markets, offer to them appreciable advantages, will naturally abandon us to our fate. Such a calamitous event can only be conjured by cooperative action on the part of the planters; they should leave no stone unturned until they shall have consolidated in order to be prepared for eventualities. The Compañia Agricola Mercantil moved in that direction, but appears now to be between the horns of a dilemma. The sister company, the Bananera, could bring about that consolidation, whereby we would cease to be at the mercy of foreign purchasers, possessing, as they do, ample funds. That that company is still in the embryonic state is due to causes which may yet be surmounted; and any action taken by them in this direction would certainly contribute to the future enfranchisement of the planters.

But to return to our premises. As is the case with San Juan del Norte, our great, urgent, indispensable want is a marine dredge. With such an apparatus, the Bluefields bar could be given the requisite depth to permit of ocean steamers crossing it and coming to an anchor at the Bluff, and the advent of these vessels, laden with the products of the great European marts, would not only bring about a reduction of the prices of the necessaries of life, but revolutionize our commercial situation in toto.

Our interest, therefore, lies in joining hands with our brothers of San Juan del Norte, and, jointly with them, concert a plan whereby the means could be raised or arrangements made to purchase a dredge. The matter should be taken in hand earnestly, with that determination which indicates confidence and steadfastness of purpose, and no time should be lost in the convoking of a conference of merchants, planters, and other public men of both localities to discuss this important matter, on which their respective future depends, and give it that practical turn which bespeaks ultimate success. The deepening of the harbor of Bluefields from the bar to the mouth of the Escondido, on the "parcours" of the fruiters, is a work of the utmost necessity, which it would be unpardonable to allow to remain any longer in the shrouds of oblivion.

STEAMBOAT SERVICE IN NICARAGUA.

I received a letter August 4, 1895, from a gentleman in Cincinnati stating that he had heard glowing accounts of what might be done in the steamboat business in Nicaragua, and that such accounts, if not grossly exaggerated, might lead him to engage in that business in this country. I informed him that while I would not advise him or any other person to invest a dollar in Nicaragua without first visiting the country and making a personal examination, yet it was my belief that a practical steamboat man willing, in case of a favorable opening, to establish a steamboat line in Nicaragua might not feel, after a visit to this country, that either his time or money had been wasted.

In September I received another letter from him as follows:

CINCINNATI, *August 26, 1895.*

DEAR SIR: Your favor of the 5th instant replying to certain questions propounded to you by me is received. I thank you very much for your courtesy in giving me such full information. I had asked these questions of you to make up my mind whether a trip to Nicaragua would be profitable or advisable in the matter of looking into the line of business mentioned in the letter. I did not hope for such a complete and lucid explanation of everything pertaining to the country and to the steamboat business in particular. I shall endeavor to be at San Juan some time before the 1st of February.

Circumstances have prevented my Cincinnati correspondent from visiting Nicaragua, but the conditions as to transportation in the country remain unchanged. The entire freight and passenger traffic between San Juan del Norte and the interior of Nicaragua is controlled by F. A. Pellas. There is neither railway nor wagon-road communication between the two sections, and his line of steamboats on the San Juan River and Lake Nicaragua has no opposition. He is the sole owner of these boats and also owns a tug and several lighters in the harbor of San Juan.*

All the coffee shipped from the interior via Lake Nicaragua and the San Juan River is consigned to Mr. Pellas as agent. He also imports goods in large quantities, which he ships to the interior. All of this business is done under the name of the Nicaragua Mail Steam Navigation and Trading Company.

My report dated February 26, 1896, contains a schedule of the freight rates. †

The cost of handling freight at San Juan del Norte and on the river is considerable. Vessels arriving at the port with cargoes are compelled to drop anchor about 2 miles from the wharf. Owing to the shifting sands, the extent and character of the bar, and the narrowness of the harbor entrance, it occasionally happens that tugs and lighters can not get out of the harbor for days at a time. This naturally swells the freight and lighterage charges. It also tends to make the port extremely unpopular in shipping circles and thus stifles competition for a carrying trade so unfortunately fettered.

At certain seasons of the year, it is impossible for the larger river boats to run on the Lower San Juan, and two complete transfers of freight must occasionally be made between San Carlos, on Lake Nicaragua, and San Juan del Norte, at the mouth of the river. At San Carlos, the freight must again be transferred either to or from the lake boats to the river boats.

Notwithstanding these disadvantages, the line gets a good share of coffee and other freights. There is reason to believe that a line properly managed and having boats of suitable construction and equipment would carry two-thirds of all the exports and imports of western Nicaragua.

At present, the interior shippers do not complain as much of rates as they do of delays. A change of business methods would do away with many of these delays and result either in the cheapening of rates to and from Corinto, via Panama, or the loss to the Panama route of the greater part of its Corinto trade.

The establishment of an American steamboat line between San Juan del Norte and Granada would not of itself benefit American trade to any extent.

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* A description of the river and lake boats appears in Highways of Commerce, p. 75, and the dimensions of the tug were given in CONSULAR REPORTS No. 185 (February, 1896), p. 251.

† See p. 428 of this number.

For more than a year, however, I have been of opinion that if an American company should get control of the line between San Juan del Norte and Granada, and, in connection with the steamboat business, establish a large wholesale house at San Juan del Norte and a branch house at Granada, it would not only be a paying investment, but would result in increased sales of American goods in Nicaragua. Such an enterprise, if properly managed, and having the right kind of representatives in Europe and the United States, would, in my judgment, control one-half of the trade of Nicaragua.

It is said that Mr. Pellas is anxious to sell his steamboat property. This includes docks and warehouses at various landing places. Should he be willing to make allowance for what it would reasonably cost to remodel some of the boats so as to fit them for an up-to-date service it would certainly be advisable for a company about to engage in the business mentioned to carefully consider this phase of the subject.

An opposition tug has been built for H. F. Bingham and E. L. de Souza & Bro., British merchants engaged in business in San Juan del Norte. These gentlemen expect to do a good share of the lighterage business, and at odd times will run their tug between San Juan del Norte and Bluefields, carrying freight and passengers. Their tug, the *Lucy B.*, was built at Rondout, N. Y., and arrived here to-day. The register was issued to J. J. Andrews and E. E. Bruggerhof, of New York. It is claimed that the *Lucy B.* can carry 40 tons of freight and has a draft when loaded of but 3 feet 7 inches.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 18, 1896.*

MARKET FOR MACHINERY AND BICYCLES IN NICARAGUA.

H. G. Higley, an American engineer, has just completed the construction of a telephone line between the town of Bluefields and the custom-house, at the mouth of the harbor, a distance of about 6 miles. A wire cable 1,300 feet in length rests on the bed of the channel. The wires on either side of the channel are strung on iron poles. All the materials were purchased in the United States. The contract price was $9,000 in silver, which is equivalent to $4,437 in gold.

Light-house.—In a former dispatch, mention was made of the contemplated erection of a light-house at Bluefields. I have had a number of letters from the United States regarding the matter, all of which have been forwarded to the inspector-general of the Atlantic coast. A temporary light was established about April 1, but was discontinued at the end of a fortnight. Now that the civil war is ended, the officials of the Department of Zelaya announce their readiness to consider all bids for the construction of the light-house. American constructors should correspond with Gen. Juan P. Reyes, inspector-general of the Atlantic coast. His office is at Bluefields.

Harbor dredge.—A determined effort will be made this year to secure an appropriation of $200,000 in silver for the purchase of a dredge to deepen the mouths of the Rio Grande, Bluefields, and San Juan rivers. This amount of silver money will sell in the United States for from $94,000 to $98,000, the peso and sol generally bringing from 47 to 49 cents. General Reyes is said to be in favor of the appropriation. The people in Bluefields realize the necessity of deepening the entrance to their harbor, and they feel, too, that their loyalty to President Zelaya during the recent domestic war entitles them to the appropriation asked for. The cost of the war may prevent the Government from granting the appropriation at once, but the purchase of a dredge is sufficiently probable to justify me in making the suggestion that Americans interested in the sale of dredging machinery should at once open negotiations with General Reyes.

Possible demand for steamers, launches, etc.—According to a newspaper statement, the Compañia Bananera Mercantil may soon require steamers, launches, etc., for use on the Bluefields River and in Bluefields harbor. It was rumored in March last that this company was to succeed the Compañia Agricola Mercantil de Rama y Bluefields, which latter company then owned three steam tugs, four river barges, and one large shift, valued in all at about $10,000 (United States). Letters to the Compañia Bananera Mercantil may be sent to either Rama or Bluefields.

Fire engines.—The town of Bluefields is without fire engines. The recent fire at Colon has caused the Bluefields merchants to address a petition to the municipal council praying for the purchase of a fire engine and the organization and equipment of fire companies. The petition is likely to be granted. All communications should be addressed to G. A. Aubert, secretary of the municipal council.

Bicycles—Consul Horton reports that there are four hundred bicycles in Athens. There are five in Bluefields and none in San Juan del Norte. Wheeling in Greece is probably better than it is on the eastern coast of Nicaragua. I believe, however, that the time is not far distant when the sale of bicycles will be as great on this coast as it is to-day in Athens. The bicycle will make its way in any country if given a fair chance. That it is quite apt to grow into favor here in spite of the black sands may be inferred from the following newspaper account of a spin along the beach from Bluefields to Pearl Lagoon, a stretch of country in which there is not a rod of wagon road:

> The long-contemplated bicycle trip of Messrs. W. P. Brown and J. Beer from the "Bluff Haulover" to Pearl Lagoon took place on Sunday last, the weather being propitious. The cyclists left their starting point at about 9 a. m. and reached their destination at 12.30 p. m., astonishing the natives of the quiet townlet in no little degree. Mr. Brown pedaled it back on the following morning, and, despite a high tide and head winds, covered the 27 miles between the two points in two and one-half hours, a record worthy of note. He had to carry his wheel more than a mile. Mr. Beer does not appear to have enjoyed the sport as his colleague. His pulmonary organs getting out of gear shortly after he reached Pearl Lagoon, he and his "bike" were paddled to town in a Carib craft. These hardy wheelmen are to

be congratulated on their venture, and it is a hope universally expressed that our thoroughfares may be so repaired as to permit the introduction of the bicycle on a large scale.

Four hundred bicycles in Nicaragua would bring about more wagon-road improvements in five years than have been made during the country's four hundred years of civilization.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 29, 1896.*

UNITED STATES INTERESTS IN NICARAGUA.

On the breaking out of the Leon insurrection, on the 24th of February last, I asked that a war ship be sent to Corinto "for the protection of American interests," partly at the solicitation of the President of Nicaragua, who represented that there was probably $2,000,000 worth of merchandise in transit to the interior stored in the custom-house at Corinto. I was aware that there was a large quantity of merchandise so stored, which the rebels, who had control of the custom-house and of the railroad even prior to the commencement of actual hostilities, had permitted to accumulate, but that much of it belonged to citizens of the United States, I doubted.

In Corinto, I do not think there lives a single American; certainly there is no one of sufficient prominence to be known or to be engaged in business. In Chinandega there is not one; nor is there one residing in all the district south and west of Leon. In the city of Leon, there are two who have probably preserved their rights to the protection of our Government, although one of them was with Walker in the fifties, but he has lived in the United States at different times since that event; the other is a native of California, of Spanish blood, who has resided in Leon some twelve years. The latter is a merchant; the former, a life insurance agent. The four or five other "Americans" living at Leon habitually take a hand in local politics and military disturbances, as I understand. From Leon to Momotombo, there is not an American resident; nor from Momotombo to Matagalpa. In that neighborhood, there is a thriving colony of citizens of the United States, all engaged in the culture of coffee; but there is no merchant or dealer in American goods.

Matagalpa is not at heart disloyal to this Government, but it was drawn into the late insurrection by reason of having a military governor from Leon and having all her offices filled by Leonese. During this rebellion, the Americans about Matagalpa have honestly preserved their neutrality and strictly attended to their own business.

I have entered into these details in order that you may clearly understand the nature and extent of the "American interests" directly involved in this insurrection.

Other American interests are found in the fact that the Pacific Mail steamers plying between San Francisco and Panama stop trimonthly each way, delivering more or less freight from San Francisco and New York; and they carry to the United States some coffee, hides, and other products.

Corinto is the port of ingress and egress for Managua, Masaya, Granada, and the pueblos contributing to these towns; but in Managua, there are but four American residents, two of whom are in the employ of the Nicaraguan Government, a third is an agent for some American machinery, and the fourth "is a gentleman of leisure." No merchandise is handled by Americans. All business, except the bank, which is an English corporation with English capital, is done by German and native merchants.

In Masaya, there are no Americans; and but one American—a Californian—in business in Granada.

During "canal days," there were many Americans in business at San Juan del Norte (Greytown), but they and the business have all departed.

At and about Bluefields there formerly was an important and enterprising American colony, which, with its business enterprises, has sickened and almost died. I think it will be again revived when a few consecutive years of peace prevail in Nicaragua.

While the entire trade of Nicaragua is not now great, yet the country is naturally an exceedingly rich one and a profitable business will no doubt be developed as railroads and other means of transit are constructed. The President is awake to the value of these improvements; and he is partial to Americans and American progress. It is in the power of American merchants and manufacturers, by a combined movement through boards of trade and chambers of commerce, to lay strong the foundations for the future control of the foreign commerce of this rich little country, which commerce is now substantially in the hands of the Germans and English.

My observation during three years of the most turbulent times Nicaragua has experienced in thirty years, leads me to the conclusion that the risks to Americans doing business in Nicaragua are greatly overrated. It is true that in times of military disturbances, the trend of business is interrupted and sometimes suspended. But I believe that an American who goes into private business, avoiding concessions from the Government, which necessarily place him under obligations to the Government and give it a license to interfere in his affairs, and strictly attends to his own business and intermeddles with no other, is perfectly safe here. If he conducts his business on generally recognized business principles, he is as likely to succeed here as in the United States. No American should come to this country without capital and a definite object. He can no more make something out of nothing in Nicaragua than he can in the United States. Young men without means seeking situations had better remain in the United States; there are virtually no situations in the employ of others to be had here.

The elements of success to those who endeavor to extend American trade into this promising field will be found in an intelligent understanding of the people with whom they must deal and of their language, habits, and needs and attention to the work in hand. The secret of the universal success of the Germans in Central American countries is found in their patient, persistent, and quiet attention to their own affairs, their careful study of the peculiar wants of their customers, and their complete abstinence from any concern in the affairs of others. They often intermarry with the natives, making permanent homes here, yet seldom mix in the affairs of the country. They are spreading themselves in all the departments of Central America, and goods of German and English manufacture are found for sale in every pueblo, however small.

LEWIS BAKER,
Minister.

MANAGUA, *April 13, 1896.*

UNITED STATES TRADE METHODS IN SOUTH AMERICA.

The Boston Transcript has a correspondent in Jamaica, whose letters generally contain interesting matter. One of these letters was published April 23 in the New Orleans Weekly Picayune, and relates to trade with South America. A copy of it is inclosed herewith. It is a letter that should be read by many of our merchants and manufacturers. It might open their eyes and lead to the sale of more American goods in Spanish America. It is possible, however, that the correspondent has been misinformed regarding the sale and popularity of American-made machetes in the Central and South American countries. He says:

> And the machetes! Some hundreds of thousands of this distinctively Spanish American implement are sold in South America every year, and they—every one of them—come from England. * * * The American cutlass is as good as any other, only it is no more a machete than a clasp knife is a bowie.

However true this may be of South America, it is not true of Nicaragua, where the Collins machete is the favorite. According to consular reports from Salvador, American machetes are equally popular in that country. Consul John D. Hall, of Puerto Rico, also reports:

> A machete bearing the name Collins is a current passport for the standard of merit in that article, and it enjoys a well-established and deservedly good reputation that nothing can break down, although the German machete is sold much cheaper.*

If the American butter sold in South America is no better than that which comes to Nicaragua, it does not surprise me to hear that it does not sell like hot cakes, but that the Collins machete should be unpopular in any machete country does surprise me.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 9, 1896.*

The newspaper article referred to by Consul O'Hara says:

> It is all very well to talk about the advantages of extending our trade relations with the markets of the southern republics, and to say that it is their manifest destiny to be drawn into

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* CONSULAR REPORTS No. 169 (October, 1894), p. 196.

closer commercial union with the great Republic of the north; but, as the Italians say, "soft words butter no parsnips," and there is a great deal more to be done than talking before the monopoly of the trade that is now enjoyed by rival European traders can be broken into. In a word, the only possible way of diverting the present tendency of the currents of trade is to go to their sources; that is, to win popularity by rational methods of competition. Sentiment never yet affected trade, and no amount of talk about "America for the Americans," "reciprocity," "manifest destiny," and the rest of it is going to help drummers who do not understand the language or manners of the people, to interest them in lines of goods that are neither manufactured nor packed to meet the peculiar requirements of the markets; still less will it cause Spanish-speaking people to read circulars and consult catalogues referring to lines altogether foreign to their notions, while right at their doors there are established traders selling just exactly the things that are wanted and to which they have been accustomed for generations.

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While there was an increase in the imports from the United States, especially after the removal of the restrictive conditions imposed by or arising out of the McKinley Tariff, it was appreciable only in the case of such staple articles of distinctively American produce as flour, food stuffs, lumber, hardware, and glassware, etc., while the general run of American manufactured goods remained, as it has been heretofore, conspicuous by its absence. Even in the hardware trade, only certain kinds of American manufacture, such as table cutlery, carpenters' tools, axes, etc., noted any increase in favor, while agricultural implements and the finer classes of cutlery were almost exclusively imported from Europe. Why? Are not American shovels and scissors, plowshares and penknives as good as those of England, and even better than the German? And the machetes! Some hundreds of thousands of this distinctively Spanish-American implement are sold in South America every year, and they—every one of them—come from England. Again, why?

A readable essay could be written on the machete of South America, and it is well worthy of a paragraph to itself as an article of commerce. It is perhaps the one thing of all others about which the Spanish American is most particular, for, like Cæsar's wife, it must be above suspicion. In everyday life it is his constant companion, and in war it is his mainstay. With it he pares an orange, carves his barbecued hog, hews down a tree and prepares the timber for his house, or even digs up his cassava patch or excavates the grave for his demised brother. In war he is but an indifferent sort of soldier, not a total stranger to timidity, until he flings away his rifle and tufted cap, and, bareheaded and perhaps barearmed, when he can get rid of his tunic, he draws his machete and rushes to the charge; then he is a terror. To the machete, rather than to gunpowder, South America owes her independence, and with the machete before all other implements is her somewhat distinctive civilization being built up, as it were. One would almost think, therefore, that the production of a machete of such irreproachable temper and finish as to make it its own best salesman would be the most appropriate means of carrying a way into the southern markets for the products of the North American manufactories. In point of fact, the article offered only excites contempt, being for the most part nothing but a common cutlass, having little temper and less finish or balance. Now, it may be thought hard hitting, but at any rate it has the merit of a friendly rousing slug, when I say that, generally speaking, the American machete is fairly representative of all the lines of American goods offered in southern markets.

Let us consider in this connection another instance in which American opportunity is being permitted to the benefit of the American manufacturer. Turning from hardware to the equally valuable, if less substantial, articles of butter and cheese, especially of the finer descriptions, we find that enormous quantities are imported annually, even in countries like Colombia and Venezuela, that raise practically unlimited herds of cattle, and yet where no butter and a very inferior and crude description of cheese are made. German traders supply the market with Danish butter and vie with the English in the cheese trade. Tons of these articles, specially prepared and packed to meet local requirements, are imported at a time, and disappear into the interior, as well as to the coast regions. America makes some attempt at competition, it is true, but with what results? Whatever may be said of the original quality of the goods supplied, the fact remains that, owing to defective preparation and packing without consideration for climatic conditions, by the time the stuff gets to the consumer it finds itself in execrable "bad odor" in more senses than one. It is to independence amounting to callous perversity rather than to mere ignorance that this result is due; at least, that is the natural conclusion, since nothing would be easier than for the American dairies, intelligently instructed by shippers, to provide an article that could compete with the best foreign product in quality, and yet undersell it at a figure to kill competition on the other side.

There is no question of intrinsic inferiority in the American goods. The contrary is usually the case. The question resolves itself into one of design and packing exclusively; hence I have dwelt particularly on machetes and butter as illustrative of the argument. The American cutlass is as good as any other, only it is no more a machete than a clasp knife is a bowie; and our table butter is as good as the best Copenhagen, only it is not prepared for the tropical market. So arguing, we arrive at the fact that no attention is paid to the needs of the markets sought. Goods that suit the northern market are assumed to be equally suitable for the southern trade. Still worse, another and fatal assumption holds that even if not exactly what is wanted that must be the fault of the South Americans, who should be educated up to the standard of the north.

Were the people of the sister republics savages, or even semicivilized, this argument would be quite in order. Unfortunately for the hopes of the American trade, this is not the case. Their civilization is right enough so far as it goes, only it is developing along lines somewhat different to those that prevail in the north; and while the American manufacturer hugs the complacent delusion that he can educate them into American ideas and methods, the European manufacturer is quietly catering to the peculiarities of the market as he finds them.

Consul Proskauer, of Puerto Cabello, Venezuela, in a report to the State Department, makes a statement that may advantageously be quoted here as applicable to the whole field of American trade in the south. He says that the largest native dealer showed him through the warehouse, "explaining the needs of the trade, and wherein Germans, English, and Americans excelled, and expressed an earnest desire to make closer connections with American manufacturers, and his willingness to send them samples of various goods, believing that when once thoroughly acquainted with Venezuelan trade our people would obtain a greater share than they have at present secured." This goes right to the spot. On general principles, the South Americans are really desirous to open up an extensive and even exclusive trade with the United States. It has always been so in Peru, in Colombia, and in Central America within the scope of my personal experience; and I understand that such is the general tendency throughout the republics. Yet, what are the people and the native dealers to do as long as the American manufacturers hold aloof and will not meet them halfway? The sentiment is there, beyond all doubt; but it must be repeated that sentiment never yet affected trade, and that there are no indications that it is going to do so in this case beyond such isolated efforts as that suggested by Mr. Proskauer's "native dealer" to arouse the emulation of American manufacturers.

This consul also says: "The stereotyped complaints about the indifference of our manufacturers at first impels the belief that they do not want the Latin-American trade. But I am beginning to doubt the validity of this criticism. * * * Until some purely American houses are established in Venezuela, aided by a friendly native sympathy and sentiment, we can not hope to make great inroads into the sale of manufactured goods." This is just what extensive travelers and careful observers have long ago noted in all the principal trade centers of Spanish America. What trader ever lived who did "not want" good trade when it offered? What the American manufacturer does want is to be roused from a fool's paradise. When this is accomplished, all else will follow. Until it is done the European traders will continue to enjoy the monopoly of the markets.

TRADE BETWEEN THE UNITED STATES AND HONDURAS.

During the fiscal year 1888–89, 1891–92, and 1894–95, the values (in pesos*) of goods imported into Honduras from the United States, England, Germany, and France were:

Country.	1888–89.	1891–92.	1894–95.
United States	$944,335.25	$924,639.90	$717,817.54
England	355,565.29	342,019.60	319,992.76
Germany	62,649.99	261,405.70	122,915.34
France	101,594.77	257,222.80	101,160.58

During these years, the values of exportations from Honduras to the same countries were:

Country.	1888–89.	1891–92.	1894–95.
United States	$3,086,540.25	$1,000,625.60	$684,950.51
England	67,341.93	39,967.20	12,550.00
Germany	48,704.37	59,086.20	525.00
France	49,538.02	7,964.30	18,032.40

The showing made by these figures is not favorable to Honduras, as, in almost every instance, there is a decrease during these years in the values of importations and exportations. This is, no doubt, mainly attributable to the series of revolutions through which the country has passed during the period mentioned. The value of goods imported from Germany, alone of the four countries named, has increased during the period covered. This may be due partly to the cheaper freight on goods brought by Hamburg steamers via Cape Horn and partly to the fact that a number of the largest importers are German merchants doing business in this country. Considering the proximity of the United States and noting the fact that the exportations from Honduras to the United States are very much greater than those to the other countries, the importations from the United States into Honduras are not so great as might naturally be expected. The following reasons may be adduced to explain this:

(1) The United States being a comparatively new and growing country, its merchants in many lines of business have not yet found it to their interest to push their trade in foreign lands, especially in those in which the total amount of business is so small as it is in Honduras. It pays them better to push their trade at home. They can, perhaps, obtain more new trade in a few growing western towns than they could in all Honduras.

(2) The merchants of the United States are not so free to give credit in this country as are the European merchants. In the comparatively few cases

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* The dollar peso, in which these values are given, was worth, according to United States Treasury valuations, in 1888–89, 69 cents; in 1891–92, 70 cents; in 1894–95, 45.5 cents.

in which they extend credit, it is for not more than ninety days. English and German merchants give from four to nine months' credit. It is altogether possible that the experience of recent years has shown the greater wisdom of American merchants in the matter of extending credit here. The American trade in this country is no doubt in a healthier state than the European.

(3) The larger European houses which do business in Honduras and other Central American Republics are accustomed to send their salesmen at regular intervals to look after their trade here. This is a much more effective way of advertising goods and building up trade in these countries than the method of sending out samples on which American merchants (except those of San Francisco) depend almost entirely. In addition to the general advantages of forming personal connections and ascertaining the tastes and wants of their customers, the method adopted by the European merchants has this special advantage—while some of the dealers here are not such as to warrant the extension of credit, a great many are deserving of such credit. The only effective way of determining who the latter are is to send out regular salesmen.

(4) The merchants of the United States have the reputation of packing goods sent to this country with less care than do the English, German, and French merchants. Goods intended for inland points should be packed securely, because of the rough handling they receive; and goods liable to damage from water, when they are to arrive during the rainy season (from May to November) should be packed water-tight. All duties are charged upon gross weight of package, and hence goods should be packed as light as possible. This reputation of European merchants for using greater care in packing goods has influence especially on the trade in notions.

(5) By far the greater part of goods imported into the country are introduced at Amapala, the port on the Pacific side. From New York to Amapala there is no competing line of steamers. The cost of transportation from England and Germany is considerably less than that from New York. The rates vary slightly from time to time, but the following, recently obtained, may be taken as representative: New York to Amapala, via Panama, per ton of 40 cubic feet, in bales, $28; in cases, $24; England to Amapala, via Panama, per ton of 40 cubic feet, in bales, $23.75; in cases, $20; Hamburg to Amapala, via Panama, per ton of 40 cubic feet, in bales and cases, $21; Hamburg to Amapala, via Cape Horn, in cases and weight, $11.50.

The time needed for transportation via Cape Horn is, of course, greater than that via Panama, but, in the case of many lines of goods, this becomes comparatively unimportant when the much smaller cost of transportation is considered. Moreover, goods shipped via Cape Horn are not so subject to breakage as goods shipped via Panama, the latter being subject to two transfers at the Isthmus. For these reasons, glassware and goods which, though having a relatively small cost price, fill a large space, are imported almost exclusively via Cape Horn on the vessels of the German Kosmos and Kirsten lines. Nearly all goods imported through the custom-houses of Puerto Cortez, Truxillo, and Ceiba—the ports of entry on the Atlantic side—come from the United States. Most of the larger inland towns being, however, more accessible to Amapala, the greater part of goods consumed in the country are entered through that port.

In a good many lines of goods, such as flour and other breadstuffs, tools, and machinery, the United States has almost a monopoly of the trade. The quantity of wines and other liquors imported from California is quite large and is increasing steadily. The trade in the cheaper grades of cotton goods is growing, and there are reasons for believing that the American manufacturers can, by making some efforts, gain the ascendency in this trade. In the lower grades of cotton goods—the kind mostly used in this country—the American article is considered superior in quality to the English. It is said that such goods made in England are often stamped as, and represented to be, American goods. The American manufacturers of printed cotton goods could no doubt make their goods more in demand in this market by having more regard to the tastes of the buyers. The larger houses in this country sell goods by the piece to a great number of dealers who carry on a small retail business. For this reason, the merchants in this country prefer the cloth put up in bolts of 20, 30, and 40 yards. The mills in the south of the United States are beginning to do this, and now nearly all of the cotton goods imported through the ports on the Atlantic side are brought from New Orleans and Mobile. The manufacturers of certain articles of hardware in common use might increase their trade here by making cheaper articles for this market. The masses of the people are poor and are not able to buy expensive implements. The German merchants have a large part of the trade in the cheaper lines of hardware.

This report is based upon observations made during the past year and a half and upon inquiries made from time to time of traveling salesmen and representative merchants in the country. It is applicable in the main to the trade of the United States with the other Central American republics, as well as to that with Honduras. There are reasons for believing that the trade of the United States with these countries will be greatly expanded in the near future.

Up to the present time, the great bulk of goods imported into these countries (except Costa Rica) has been introduced through the ports on the Pacific coast. The United States, notwithstanding its proximity, has enjoyed no cheaper freight rates than the European countries. On the contrary, as shown above, the advantage in this respect has been in favor of the European countries, especially Germany. It is a question of only a few years before there will be several cheaper and quicker routes by which goods may be imported into these countries from the south of the United States. The railroad across the Isthmus of Tehuantepec is completed, and it is reasonable to suppose that before a great while, there will be steamship connections with this road and New Orleans and other southern ports of the United States, thereby making these ports much more accessible to the Pacific ports of Central America. A railroad is being built from Puerto Barrios, Guatemala, to the city of Guatemala, to connect with the road already existing between the latter place and San José, the Pacific port. It is thought that this road will be completed within three years. It is likely that a road will soon connect the steamers on the Rama River with the lake steamers of Nicaragua, thus giving through transportation by steam across Nicaragua.

Certain American capitalists are at present negotiating with the Government of Honduras in regard to the consolidation of the foreign debt of the country and the resumption of the construction of the interoceanic railway of Honduras. The building of this road is among the possibilities of the near future. The completion of these several roads will no doubt be followed by better steamboat connections with the southern ports of the United States, by the great internal development of the Central American republics, increasing thereby the consequence of the trade in these countries, and by a more lucrative commerce between these countries and the United States.

WM. M. LITTLE,
Consul.

TEGUCIGALPA, *February 20, 1896.*

MILITARY SERVICE OF FOREIGNERS IN CHILE.

Referring to my No. 74, of this date, transmitting copy and translation of the principal provisions of the act of the Chilean Congress organizing the national guard, I have the honor to report that I have received several personal applications from American citizens established in this country, requesting the intervention of this legation for the purpose of securing the exemption of their children, born in Chile, from the service required by the above law.

To these applications I have replied that, although by section 1993 of the Revised Statutes of the United States, children of American fathers, born abroad, are citizens of the United States, the law can not be construed so as to exempt them from the allegiance due to the country of their birth so long as they remain within its territory, provided that, by the laws of the country where they are born and reside, such children are citizens of that country.

As by the Chilean constitution (Chapter IV, article 6, paragraph 1) all persons born in Chile are Chilean citizens, I have declined to interfere in these cases.

EDWARD H. STROBEL,
Minister.

SANTIAGO, *April 6, 1896.*

SUGAR PRODUCTION IN THE BRITISH COLONIES.

I inclose herewith a return showing the amount of sugar produced in and exported from British sugar-producing colonies for each of the years beginning January, 1889, to 1894, inclusive.

R. M. BARTLEMAN,
Consul.

ANTIGUA, *May 19, 1896.*

[From the Leeward Islands Official Gazette, May 14, 1896.]

Return of production of sugar.

Colonies.	1889.		1890.		1891.	
	Produced.	Exported.	Produced.	Exported.	Produced.	Exported.
	Cwts.	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*
Queensland	888,220	527,460	1,399,660	901,080	1,024,380	647,620
Fiji	*220,980	263,554	*295,920	305,819	*334,400	409,412
Jamaica	†475,324	327,674	†573,730	426,310	†452,849	304,918
British Honduras	21,347	12,030	18,701	5,773	14,783	3,696
British Guiana	†2,351,740	2,311,740	†2,149,680	2,109,680	†2,379,360	2,339,360
Bahama Islands	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Trinidad	†1,068,180	1,003,300	†1,096,260	1,028,921	†976,100	907,160
Barbados	(‡)	1,305,360	(‡)	1,705,220	(‡)	994,960
Windward Islands:						
Grenada	(‡)	4,509	(‡)	1,149	(‡)	1,440
St. Vincent	(‡)	93,980	(‡)	98,240	(‡)	80,280
St. Lucia	(‡)	77,212	(‡)	99,668	(‡)	70,762
Leeward Islands:						
Antigua	(‡)	353,200	(‡)	322,410	(‡)	241,820
St. Kitts and Nevis	(‡)	390,700	(‡)	342,200	(‡)	257,810
Dominica	(‡)	41,900	(‡)	46,240	(‡)	32,720
Montserrat	(‡)	33,000	(‡)	28,220	(‡)	20,620
Virgin Islands	(‡)	Nil.	(‡)	20	(‡)	Nil.
Natal	312,980	§150,710	‖232,800	¶47,136	‖526,380	¶52,272
Mauritius	**2,755,326	2,788,988	**2,469,752	2,525,842	**2,443,661	2,442,734

* These figures refer to European cultivation only.

† Estimated amount.

‡ Can not be given.

§ These figures exclude the quantity exported to the South African Republic and Zululand, of which no statistics can be given.

‖ No returns for first six months of 1890; returns from 1890, July to June.

¶ No returns for first six months of 1890; returns from 1890, July to June. These figures exclude the quantity exported to the South African Republic and Zululand, of which no statistics can be given.

** These figures indicate the quantity of sugar received in town.

Return of production of sugar—Continued.

Colonies.	1892.		1893.		1894.	
	Produced.	Exported.	Produced.	Exported.	Produced.	Exported.
	Cwts.	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*	*Cwts.*
Queensland	1,227,360	840,380	1,541,640	1,102,520	1,834,240	1,349,020
Fiji	*344,240	377,666	†2,820,480	307,789	†5,117,660	545,307
Jamaica	‡600,394	452,889	‡545,272	396,270	‡601,907	453,886
British Honduras	17,489	1,759	13,312	1,810	11,731	83
British Guiana	‡2,297,600	2,257,600	‡2,195,420	2,155,420	‡2,090,040	2,050,040
Bahama Islands	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Trinidad	‡1,043,740	987,340	‡977,280	903,040	‡1,048,861	937,380
Barbados	(§)	1,186,960	(§)	1,336,160	(§)	1,304,640
Windward Islands:						
Grenada	(§)	170	(§)	1,170	(§)	2,031
St. Vincent	(§)	62,700	(§)	58,460	(§)	48,910
St. Lucia	(§)	114,928	(§)	88,746	(§)	89,698
Leeward Islands:						
Antigua	(§)	306,040	(§)	291,240	(§)	304,840
St. Kitts and Nevis	(§)	357,380	(§)	340,840	(§)	337,920
Dominica	(§)	44,300	(§)	29,480	(§)	24,400
Montserrat	(§)	50,000	(§)	33,210	(§)	33,880
Virgin Islands	(§)	160	(§)	80	(§)	60
Natal	‖316,060	¶210,769	‖386,380	**240,713	‖408,020	**265,680
Mauritius	††1,589,249	1,831,176	††2,380,892	1,693,020	††2,456,197	2,723,057

* These figures refer to European cultivation only.

† These figures refer to European cultivation only. They show the quantity in cwts. of sugar cane produced; the yield of sugar can not be given

‡ Estimated amount.

§ Can not be given.

‖ No returns for first six months of 1890; returns from 1890, July to June.

¶ No return for first six months of 1890; returns from 1890, July to June. These figures exclude the quantity exported to the South African Republic and Zululand, of which no statistics can be given.

** No returns for first six months of 1890; returns from 1890, July to June. The figures exclude the quantity exported to Zululand, of which no statistics can be given.

†† These figures indicate the quantity of sugar received in town.

FLOUR TRADE OF SANTIAGO DE CUBA.

Flour coming to this market is shipped in sacks containing 203 pounds American weight (200 pounds Spanish weight), net. This size sack of flour is convenient not only for city trade, but for transportation to the hamlets of the interior, most of which have no railroad facilities and are dependent in matters of transportation upon pack-mule trains, the sacks containing the regulation weight to load each burro, or mule.

Instead of wheat bread, the people of the rural districts generally eat a kind of cake called "casabe," made from the roots of the yuca plant, which resembles the potato somewhat in appearance. These people occasionally buy from stores a kind of water cracker, made of wheat flour and water, with a little shortening. In the larger towns and cities, bread is in general use. All classes of Cubans like bread, but it is a luxury these times not always to be indulged in by the poor.

In this province, at least, no families do their own baking, so that flour is bought almost exclusively by bakers. The cheaper grades of flour are generally used.

High price, on account of the tariff, is the only objection urged against American flour, for our flour is regarded as being of a superior quality. The tariff imposed upon American flour, per sack, is $4.55 in Spanish gold ($4.10 in United States currency), while each sack imported from Spain pays a duty of only $1 in Spanish gold (90 cents in United States currency). This discrimination against American flour in favor of Spanish flour is ruinous to our trade in Cuba, and an injustice, considering our country furnishes a market for 90 per cent of the entire exportations of Cuba.

A table of the declared imports of flour from the United States for the past five years, as shown by the custom-house records of this city, will be of interest in this connection:

Year.	Spanish.		American.	
	Weight.	Value.	Weight.	Value.
	Kilograms.		*Pounds.*	
1891	945,194	$66,163	2,079,427	$59,547
1892	2,652,356	185,664	5,835,183	167,098
1893	3,954,285	275,797	8,699,427	248,218
1894	5,658,768	306,113	12,449,290	356,502
1895	4,058,247	284,077	8,928,143	255,672

The above table does not represent the condition of the flour trade of the United States with this port at the present time, for within the last six or eight months, importations of flour from the United States have fallen off enormously and bid fair to cease under the present tariff discrimination. Only one firm at this port (Messrs. Schumann & Co.) now import flour from the United States, and this firm, which brings its flour from Texas, imports now only about 500 bags a month, as against a monthly importation of 2,500 bags three years ago. Mr. Julian Cendoya, the only American merchant here, through the writer's instance, began handling certain American flours about two years ago, but, on account of tariff discriminations in favor of Spanish flour, he has been compelled to abandon all trade in the American product.

Most of the flour used here at present comes from Barcelona, Spain. It is said that American wheat is sent there and ground and reshipped to this island as Spanish flour, in order to avoid the heavy duty imposed upon American and other foreign flour.

The writer discussed the question of restoring the trade in American flour here with a number of leading local merchants, and, with one accord, they all said to do such a thing would be impossible unless the present discrimination in favor of Spanish flour were in some way removed.

Vast numbers of people, who were comfortably fixed, have become so impoverished by the insurrection that has been devastating this island that now they find themselves unable to buy bread. The quantity of flour consumed here in the past eighteen months has, perhaps, not diminished, for the thousands of additional Spanish troops here must be fed. They use the water cracker largely.

JOHN T. HYATT,
Vice-Consul.

SANTIAGO DE CUBA, *May 29, 1896.*

PORT CHARGES AT ST. GEORGE'S, BERMUDA.

I transmit herewith a report on rates and charges at the port of St. George's, Bermuda:

Harbormaster's fees.—First 200 tons, 1d. per ton; after 200 tons, one-half of 1d. per ton.

Light dues.—Light dues are 3d. per ton register.

Ships requiring provisions and coal only for ship's use, one-half of 1d. per ton register.

Pilotage table.

Draft	Sailing vessels.						Steam vessels.					
	From sea.			To sea.			From sea.			To sea.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
8 feet	3	12	0	2	16	0	3	4	0	2	8	0
8 feet 6 inches	3	16	6	2	19	6	3	8	0	2	11	0
9 feet	4	1	0	3	3	0	3	12	0	2	14	0
9 feet 6 inches	4	5	6	3	6	6	3	16	0	2	17	0
10 feet	4	10	0	3	10	0	4	0	0	3	0	0
10 feet 6 inches	4	14	6	3	13	6	4	4	0	3	3	0
11 feet	4	19	0	3	17	0	4	8	0	3	6	0
11 feet 6 inches	5	3	6	4	0	6	4	12	0	3	9	0
12 feet	5	8	0	4	4	1	4	16	0	3	12	0
12 feet 6 inches	5	12	6	4	7	6	5	0	0	3	15	0
13 feet	5	17	0	4	11	0	5	4	0	3	18	0
13 feet 6 inches	6	1	6	4	14	6	5	8	0	4	1	0
14 feet	6	6	0	4	18	0	5	12	0	4	4	0
14 feet 6 inches	6	10	6	5	1	6	5	16	0	4	7	0
15 feet	6	15	0	5	5	0	6	0	0	4	10	0
15 feet 6 inches	6	19	6	5	8	6	6	4	0	4	13	0
16 feet	7	4	0	5	12	0	6	8	0	4	16	0
16 feet 6 inches	7	8	6	5	15	6	6	12	0	4	19	0
17 feet	7	13	0	5	19	0	6	16	0	5	2	0
17 feet 6 inches	7	17	6	6	2	6	7	0	0	5	5	0
18 feet	8	2	0	6	6	0	7	4	0	5	8	0
18 feet 6 inches	8	6	6	6	9	6	7	8	0	5	11	0
19 feet	8	11	0	6	13	0	7	12	0	5	14	0
19 feet 6 inches	8	15	6	6	16	6	7	16	0	5	17	0
20 feet	9	0	0	7	0	0	8	0	0	6	0	0
For each additional half foot	0	4	6	0	3	6	0	4	0	0	3	0

NOTE.—Pilotage of a vessel from one port or anchorage to another in these islands, half the rate of pilotage from sea. From or to Hamilton, within Staggs Channel, 10s. For vessels propelled by steam, five-sixths of the pilotage rates for sailing vessels. For disabled or crippled vessels, the pilotage to be such as the pilot and master, owner, or consignee agree upon.

Licensed pilots are vigilant, and much competition exists among them: they can be easily obtained off the east end, and frequently board ships 15 or 20 miles from shore.

Wharfage of vessels at St. George's.

From—	Rate per day.	From—	Rate per day.
	Shillings.		*Shillings.*
60 to 100 tons	3	750 to 850 tons	15
100 to 150 tons	4	850 to 950 tons	16
150 to 250 tons	6	950 to 1,050 tons	17
250 to 350 tons	8	1,050 to 1,150 tons	18
350 to 450 tons	10	1,150 to 1,250 tons	19
450 to 550 tons	12	1,250 to 1,350 tons	20
550 to 650 tons	13	1,350 to 1,450 tons	21
650 to 750 tons	14	1,450 to 1,550 tons	22

Rates of storage.

Articles.	Price.		Articles.	Price.	
	s.	*d.*		*s.*	*d.*
Rum.....per puncheon	3	6	Iron.....per ton	8	0
Do.....per hogshead	1	9	Bricks.....per 1,000	8	0
Molasses.....per puncheon	5	0	Cotton.....per bale	3	6
Sugar.....per hogshead	5	0	Hay.....per bundle	1	6
Do.....per tierce	2	6	Earthenware.....per crate	2	0
Do.....per barrel	0	9	Corn, pease, oats, etc.....per bag	0	4
Do.....per box	1	6	Do.....per 1,000 bushels	14	0
Coffee.....per tierce	2	6	Staves and headings.....per 1,000	10	0
Do.....per barrel	0	8	Lumber, pine:		
Do.....per bag	0	7	Pitch.....per 1,000 feet	10	0
Brandy, wine, gin, etc.....per pipe	5	0	White.....do	8	0
Do.....per half pipe	2	6	Hides.....per 1,000	20	0
Do.....per hogshead	2	0	Saltpeter.....per ton	14	0
Do.....per quarter cask	1	3	Brimstone.....do	14	0
Flour, bread, rice, etc.....per barrel	0	6	Copper ore.....do	8	0
Do.....per tierce	1	9	Logwood.....do	8	0
Pease.....per tierce	1	0	Mahogany:		
Provisions.....do	1	0	Logs.....per 1,000 feet	12	6
Do.....per barrel	0	9	Boards or planks.....do	10	0
Naval stores.....do	0	9			

After two months, half rates are charged.

EDWARD W. WILLETT,
Commercial Agent.

ST. GEORGE'S, *May 18, 1896.*

EXHIBITION OF UNITED STATES GOODS IN VENEZUELA.

I inclose herewith translations of two contracts made between the Government of Venezuela and William Harper, representing the Philadelphia Museums and American Manufacturing Association. The first contract refers to the establishment of a permanent exhibition of United States goods in

Caracas, with their own building; the second, to the establishment of such permanent exhibitions in the cities of Valencia, Ciudad Bolivar, and Maracaibo.

In several communications to the Department of State and for many years past, I have advocated the establishment of permanent exhibitions abroad of all classes of goods manufactured in our country, to give to the people of other nations an opportunity to personally inspect and compare our goods with those of the Old World. Germany, England, and France overrun South America with commercial traveling agents, mostly energetic young men, well versed in the Spanish language and the customs of South American people, selling from small samples and catalogues, but a commercial traveler for an American house is seldom seen here. As these traveling agents must cost great outlays to European houses, it is clear that permanent exhibitions are cheaper for the extension of our trade. Such an enterprise should have the strongest support of manufacturers in the United States.

E. H. PLUMACHER,
Consul.

MARACAIBO, *May 20, 1896.*

[Translation.]

The council of ministers, having considered the petition made to this office by Mr. William Harper, American delegate for the Philadelphia Museums and representative of the American Manufacturing Association, for the establishment and moral support of a museum at Caracas for a permanent exposition of all works of arts and manufacture by American manufacturers, this petition to extend to the cities of Valencia, Maracaibo, and Ciudad Bolivar. Also, the permission to introduce through the custom-houses of the Republic the samples in pieces of every article, binding himself to give bond or security for the sufficient amount to pay the duties on the articles which might be offered for consumption, which the Government shall also have a right to inspect.

The permission to construct at Caracas a building of at least three stories in height and suitable for the use of a museum, subject to the approval of the Government of the corresponding plans, all of which for account of the associates he represents, excluding only the exemption of import duties on the materials necessary for the construction of the building.

Taking also into consideration that the propositions made by William Harper, as delegate of the Philadelphia Museums and representative of the National Manufacturing Association of the United States, are beneficial to the nation, as it will augment the commercial relations of both countries without injuring the fiscal incomes, as all the objects offered to consumption will always pay duties and will be under the Government's close inspection; and, furthermore, that the construction of a good building at the capital of the Republic will beautify the city, with no more charges to the nation than the loss of the small amount of duties which may be caused by the materials imported for said works, and as the Government has always granted these privileges, even if it had to pay for them, the President of the Republic has given his consent to this petition, and disposes:

(1) To grant the privilege which William Harper solicits in the name of those he represents for the establishment of a museum for permanent exposition at Caracas of all works from American manufacturers.

(2) The Government shall address itself to the presidents of the different States of Carabobo, Zulia, and Bolivar, interesting them in granting the necessary permit for the establishment of the permanent museum and exposition at the cities of Valencia, Maracaibo, and Ciudad Bolivar.

(3) That in each and every case, and upon the compliance with the legal formalities, there shall be a free pass through the La Guayra custom-house of all goods from the manufacturers for said museum, and in the same way through the custom-houses of Valencia, Maracaibo, and Ciudad Bolivar, if said association should see fit to establish the same at the latter places.

(4) That in every case, the delegate for the Philadelphia Museums and representative of the American Manufacturing Association will notify this department of the amount of articles already entered free of duties and offered for consumption, so that the Minister of Finance may order the payment of the duties which, according to law, they shall have incurred.

(5) That this department shall issue the rules and regulations for the effective inspection of all the goods imported into the Republic for the museum according to this resolution.

(6) That in order that this corporation may be benefited by all immunities granted by this decree, they shall fulfill all the requisites that the law imposes, besides the obligations hereby agreed upon.

(7) To accept from said company the necessary bonds for the payment of custom-house duties caused by said articles already imported for the museum and offered to consumption.

[Translation.*]

The council of ministers having considered the petition made to this office by Mr. William Harper, American, etc., * * * the President of the Republic has given his consent to this petition and disposes:

(1) To grant to Mr. William Harper, as delegate of the Philadelphia Museums and representative of the National Manufacturing Association of the United States, the privilege he solicits for the construction in the city of Caracas and at the expense of this corporation a building of at least three stories in height (first, second, and third floors), suitable for the use of the museum and according to the plans that are to be presented at this department for approval.

(2) To grant also the free introduction through the custom-house at La Guayra of all the necessary materials for the construction of said building previous to the fulfillment of formalities required by law and the soliciting of the proper permit from this office, which shall be promptly attended to.

(3) The execution of said work shall be done under the inspection of this department.

NEW STEAMSHIP AND RAILWAY LINES IN VENEZUELA.

I inclose a translation of a contract between the Government of Venezuela and the Gran Ferrocarril de Venezuela for the establishment of regular steamship lines on the lake of Valencia and the building of branch railroads and tramways connecting with the main trunk line. This enterprise will be of great benefit to the central part of Venezuela, facilitating the transport of all kinds of merchandise.

E. H. PLUMACHER,
Consul.

MARACAIBO, *May 15, 1896*.

[Translation.]

The Ministers of Interior and Public Works, sufficiently authorized by the President of the Republic and with the approval of the federal council, for one part, and the company fo the Gran Ferrocarril de Venezuela, for the other part, have agreed upon the following contract:

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* Portions omitted merely repeat the phraseology introductory to first decree.

(1) The Government grants to the company of the Gran Ferrocarril de Venezuela and its legitimate successors the exclusive privilege for the establishment of one or more lines of steamers of sufficient capacity for the navigation on the lake of Valencia in all its directions and ports. This privilege will be for the term of five years, counting from the day on which this contract is definitely approved.

(2) The company is obliged to place in service the necessary steamer or steamers inside of one year, counting from the date on which this contract is approved, and should they fail to do so, this privilege will be declared forfeited.

(3) The steamers shall have national register and be under the Venezuelan flag, and they can not be taken for other purposes without the express consent of the company. The crew may be composed of both natives and foreigners, according to the company's convenience. With the view of avoiding all interruptions in the navigation, the natives who may form the crew of the vessels are declared exempt from all military service, the company being obliged to furnish to the Government a list of same.

(4) It is also granted to the company the right to construct railroads or tramway lines at La Cabrera and San Joaquin, or Guacara, and other places which they may find necessary for the transportation of cargo and passengers on the lake, and from there to the line of the Gran Ferrocarril de Venezuela, taking for this purpose, if needed, the roads and indispensable land for the establishment of the railroads, with no indemnification whatever, but the road must be at least 5 meters wide. The company may also construct a tramway line from the lake to Güigüe and better the condition of the roads now existing in the latter place.

(5) The steamer or steamers, which may come in pieces, with all their materials and utensils, shall be free of all import duties; also, all of the articles and materials for the construction of the roads and those necessary for the exploitation and support of the steamers and railroads, the coal which may be sent for said company during this period only being subject to the laws in force. The company shall have the right to use the materials they have at their railroad now in operation.

(6) The company will be exempt from every national contribution of whatever kind or nature during the period of this concession.

(7) The present contract shall in no way interfere with the traffic of sailing vessels or oar boats.

(8) The company may transfer all or a part of this contract to any person or company, with the previous approval of the Government.

(9) The rates for transport shall not exceed the following tariff: (*a*) The passage or fare of one person, with 25 kilograms as baggage, shall be 4 bolivars for the longest route, and in proportion for the shorter distances; (*b*) for freight of every 1,000 kilograms of merchandise, fruits, and products from one place to another on the lake, 13.50 bolivars, and the overweight on baggage and parcels shall pay double the freight; (*c*) the transport of large animals and cattle on a large scale shall be done at the rate of 4 bolivars per head, say up to five head, and from that number up, the price shall be specially agreed upon, which must be less; small cattle and animals shall pay half of the rate under the same conditions. The prices for the transportation by railroads shall not exceed those charged at present by the Gran Ferrocarril de Venezuela. The company may charge as they may think best, say by weight or measure, taking as a unit 1 cubic meter, equivalent to 800 kilograms, when the lot is small, and in large amounts the price to be agreed upon shall always be reduced.

All doubts and controversies which may arise from this contract shall be decided by the national courts, but in no way shall they be the cause of international claims.

Additional article.—To avoid misunderstanding, it is hereby stated that, according to article 1, it is granted to the company the exclusive privilege for only five years, but that after said five years have expired, the company shall have the same rights to the navigation and use of tramway roads, but without further privileges.

UNITED STATES LUMBER TRADE WITH URUGUAY.

The lumber trade of the United States with Uruguay and the Argentine Republic presents incongruities which can not but be harmful to the lumber interests of our country. To prove the truth of this, it is necessary only to show the difference between the prices received by the lumber mill and the price the consumer has to pay for it here and to explain the reasons of the extraordinary difference.

The best means of demonstrating the above will be by giving an exhibit of a cargo sold here, with such explanations as will enable anyone interested in the matter to form an opinion for himself. Before proceeding further, it is well to state the range of prices at which pitch or yellow pine lumber has been offered and the figures at which this lumber is generally sold to the consumer. The lowest offers known to me as made from the United States to the importers here is $19 per 1,000 feet, delivered in the port of Montevideo or Buenos Ayres, and the average price paid for pitch pine by the consumer is from $40 to $50 per 1,000 feet.

These governments levy a duty for the privilege of allowing this lumber to be landed here almost equal to the amounts which the miller realizes for the original value of the raw material, plus all the work and expenses of preparing and getting it ready for shipment; this, too, in the face of the fact that this country produces no timber which could take the place of our pine; that it must be purchased from us, because it is needed and is the cheapest in the market in spite of all the additional charges put on, thereby furnishing these governments a source of revenue on an article the export of which destroys our pine forests uselessly and leaves the lumber manufacturer poor.

The following exhibit is of an account of sale for a cargo of pitch (yellow) pine lumber, sold and shipped direct by the mill, with intervention of their representative here:

Account of sale of a cargo of pitch pine per bark ———, for ———, Montevideo.

		Feet.
According to M. M.'s invoice		564,149
According to measurement of public measurer here, as per contract		564,116
Less reduction for sap, short measure in some dimensions, and on deck load		34,988
Net		529,128
529,128 feet, at $25 per 1,000 feet		$13,228.30
Freight, at $12 per 1,000 feet, according to charter party		6,129.70
Total		7,098.60
Discount at 8 per cent on $6,000 paid in cash by buyer on account of freight, 6 months	$240.00	
Measurer's bill, 25 cents per 1,000 feet	141.02	
Discount on note of buyer, at 6 months, at 7 per cent per annum, and other expenses, stamps, telegrams, etc	463.49	
		844.51
Total		6,254.09

This amount was paid over in cash by telegraphic transfer in New York the same day of settlement here, with deduction of $10.45 for cable expenses to bank.

The lumber trade here has so far been practically divided into two distinct branches, one being the importer, the other the dealer. The importer buys and contracts probably in conjunction with his New York commission merchant when and wherever the opportunity is most favorable, using capital to the best advantage in the markets at home, picking up bargains whenever lumber manufacturers are forced to make sacrifices, etc., and selling in cargo lots afloat, at time of shipment, to the lumber dealers here, who keep a regular stock on hand for distribution to the consumer.

It will be easily understood that the importers are very few in number in any one of these countries and that it is to their benefit to keep the dealer as much as possible in the dark regarding the import lumber trade and thus subject to themselves. With this object in view, a lot of customs and practices were inaugurated, which made it almost a matter of impossibility for an outside manufacturer or dealer in lumber to sell direct to the dealer here on account of the numberless vexations he was subjected to. Unless he knew and avoided these obstacles, or had some one here who could do this for him, he would come out loser at the end.

These practices apparently favor the actual dealer, but, in fact, the importer has been the one benefited, because they gave him entire control of the importing business and proved to be his safeguard against outside intrusion.

The methods of sales to dealers here are about the following: The lumber is sold and delivered on six months' credit from the time it has been officially accepted by the dealer, according to the various other customs hereinafter mentioned, viz:

(1) The dealer is expected to be notified by wire immediately when the ship bringing the cargo he bought from the importer (or seller) is ready to sail, so as to give him time to dispose of all he can to his customers during the time of the voyage, a matter of not less than sixty days.

(2) All lumber sold is supposed to be dry, clear of any sap, splits, knots, and other faults—in other words, according to the custom here, it is supposed to be faultless. If any faults are found in any plank, beam, etc., the proportion thereof is assessed against the seller by the public inspector appointed for such cargo.

(3) All lumber, before it is accepted by the dealer, has to undergo an inspection and measurement by a public inspector, who is jointly chosen by seller and buyer, or each one has the right to name one separately. These inspectors measure the cargo and assess the percentage of reduction to be claimed, according to the lumber standard of this port, from the seller. According to this standard, no cargo can be brought here without some claim against it, the lowest amounting to about 4 per cent; but if it goes over 10 per cent, the buyer has the privilege of rejecting the entire cargo. Such

inspection is paid for half each by the buyer and the seller and amounts to 50 cents per 1,000 feet.

(4) As all the lumber is sold delivered here, the freight, of course, has to be paid by the seller, which means a cash outlay of sometimes more than the manufacturer gets for his lumber. The rate of freight runs on an average from $10 to $14 per 1,000 feet, $12 being a fair average. Of course, arrangements can generally be made with the buyer to pay the freight on delivery of the cargo, but in any such case he will claim the percentage (discount) for the advance so made of said freight, and it goes toward reducing the actual price at which the lumber is nominally sold. It is the same with six months' time notes which the seller receives from the buyer in payment of the purchase. These notes can be discounted so long as the buyer is considered good, but this further reduces the actual price supposed to have been realized for the lumber.

Next comes the Government with its duty, which amounts to $8.25 per 1,000 feet on pitch or yellow pine and about $15 on white pine, and is calculated as follows: On a valuation fixed by the Government on pitch pine of $30 per 1,000 feet for import purposes, no matter whether it has cost in reality perhaps only half of that, a duty of 20 per cent is charged, and, besides, about $2.25 per 1,000 feet additional custom-house charges.

It will be seen that the freight and duty alone on pitch pine generally amount to $20 and more; consequently, the dealer here, in selling to the consumer at from $40 to $50 per 1,000 feet, has a margin of from $20 to $30 to be divided between the lumber manufacturer, the importer, and himself.

The manufacturer, in consideration of furnishing the actual material, being under the heavy expense of manufacturing, making all the advances until the article is marketable, and, finally, running the risk of losses of all kinds, has to content himself with about one-third of this division and is satisfied if the New York commission merchant offers him at home this much. The importer, together with his commission merchant, running hardly any risk, satisfies himself for the outlay of his money for the time being with about one-sixth of this and grows independently rich on it, leaving to the actual dealer here the balance of three-sixths, with which this latter party is able to make himself quite comfortable.

That the importer, the dealer, the freighter, and the Government here are doing well on a business of this kind, goes without saying, but our manufacturer at home, having commenced business as a young man on a piece of timber land and having worked hard all his life, finds himself when he has grown old, poor and without any resources, as the land from which the timber has disappeared without benefit to him is valueless without it.

What steps should be taken to remedy these hardships falling upon the producer in this branch of industry, are for him to decide; but it would seem that a direct connection between the manufacturer and the actual dealer were preferable to the way this business has been done so far; or, still better, if the parties interested in the lumber-milling business would join together and establish rules of their own in order to protect themselves, and at the same time guard against the useless destruction of the timber wealth of our country without compensating benefit.

EDGAR SCHRAMM,
Consul.

MONTEVIDEO, *April 30, 1896.*

ITALIAN SULPHUR TRUST.

There is on foot a project, which, if brought to a successful issue, may seriously affect American importers and consumers of sulphur. In view of the long-continued crisis in the sulphur-producing districts of Sicily, caused by overproduction and resulting low prices of brimstone, and for the purpose of insuring to the producers an advanced price, fixed for a term of years, and also fully controlling the output and market of all Sicilian sulphur and securing large profits, a company—the Societá Anglo-Siciliana—is about to be formed, with a capital stock of £1,000,000, one-half to be paid up at once.

The principal movers in the matter are Baron Oppenheimer, a prominent Paris banker; Commander Florio, of the Florio Steamship Company, Palermo, Sicily; and Alexander Maccomb Chance, of Birmingham, England. The latter gentleman is the inventor of the English method of manufacturing "recovered brimstone" from the residue in the manufacture of soda.

The company will be definitely organized when as many of the Sicilian producers as produce four-fifths of the annual output shall have signed articles of agreement. The company is to remain in force for the term of five years, with privilege on the part of the company of renewal for five years longer.

In these contracts with the producers, the company becomes the sole purchaser of all the products of the signers, and it is stipulated that the company shall have the right to dictate a decrease of production, up to 18 per cent, should the annual output exceed the demand.

The producers are guarantied by the company (Societá Anglo-Siciliana) for the term of five years, for brimstone, best seconds unmixed, aboard at Sicilian ports, the fixed price of £3 5s. 6d. (at present rate of exchange) per ton, equivalent to $15.94, being an increase of $1.52 over the present market price of $14.42 per ton, which is already 10 per cent advance (as before stated) on account of this project.

In case of the abolition of the Italian export tax (which is at present about $1.98), or its reduction to 18 cents per ton, which is being argued in the Italian Parliament, and confidently expected to be passed, the producers are also to receive this benefit of $1.80 per ton.

The company, of course, will regulate the export prices, and thereby expects to reap large profits.

Mr. Chance, of Birmingham, reserves to himself, in the agreement between the members of the company, the privilege of manufacturing with his method 40,000 tons annually of "recovered brimstone."

It would seem necessary that the company, in order to have everything their own way, would also have to get control of the pyrites, but in this they may fail, and it is not certain, as yet, that they will be entirely successful with the other.

While some parties with whom I have talked about this matter seem to be doubtful as to the possibility of getting all the producers of four-fifths of the production to sign the contract, others express themselves as confident that the distressed mine owners and producers will gladly avail themselves of the apparent opportunity to better their condition, and that the establishment of the company is assured and will be all arranged by the 30th of July next.

As a direct effect of this movement, the prices of brimstone have advanced 10 per cent during the last two weeks, and if the prospects for the speedy successful formation of the company continue, the prices will doubtless continue to rise. On the other hand, should it fail to convert all the producers and mine owners (in some mines many different parties are interested, hence the difficulty) the result might be an immediate drop to even lower prices than were ruling before.

I subjoin herewith translations of two clippings from the Corrière di Catania of the 24th and 27th instants, which are publications of telegrams received from Rome and Palermo bearing upon this subject. I also subjoin translation of a clipping from the same journal of to-day (28th), giving statistics with reference to the exportation of sulphur.

I have just learned that in the contract with the producers, it is stipulated that the company, when ordering a decrease of product, must pay to the producers 1 per cent extra for every 3 per cent reduction of output dictated.

LOUIS H. BRÜHL,
Consul.

CATANIA, *May 28, 1896.*

[From the Corrière di Catania, May 24, 1896.]

THE ANGLO-ITALIAN SULPHUR COMPANY.

ROME, *May 23, 1896.*

Concerning the current report of the formation of an Anglo-Italian company for the sulphur commerce, I have the following particulars, which I hasten to communicate to you, being of much interest to Sicily.

The combination of English capitalists and of the firm Florio, of Palermo, has been formed with a syndicate for the formation of the Societá Anglo-Siciliana per lo solfo (Anglo-Sicilian Sulphur Company). The capital will be £1,000,000, half of which will be immediately paid up. The company will be declared definitely constituted when the syndicate will have succeeded to close with the producers as many contracts as are wanted to assure the acquisition of a determined quantity of product. Such conditions you can hold completely verified, because the prices offered by the company for the great length of time—much higher than the present ones, and for that reason largely paying—have been accepted with satisfaction by the producers.

Commander Florio, to whom the syndicate has delegated its authority, has closed a great number of contracts. The company, therefore, will certainly be formed and the articles of agreement will be signed in London during next June.

In virtue of the contracts already stipulated, the producers obligate themselves to consign their sulphur to the company for a period of five years, extendible for five more years, at the demand of the company.

In the contracts, it is anticipated that the export duty on sulphur will be abolished, and in such case is determined the increase in price, corresponding to the duty no more to be paid. Thus is removed the doubt placed before some that the abolition of the export duty would not be advantageous to the producers.

* * * By the creation of this great society, the sulphur crisis in Sicily may be considered dissolved.

[From the Corrière di Catania, May 27, 1896.]

THE ANGLO-SICILIAN SULPHUR COMPANY.

PALERMO, *May 26, 1896.*

Advocate Ignazio Zangara has to-day conferred with Senator Codronchi (the new governor or special minister of Sicily), who declared himself to be disposed to assist with the most energetic means the realization of the Anglo-Sicilian Company for the commerce of sulphur, since he is convinced that this strong company would, in an unhoped-for and satisfying manner, solve the present crisis which afflicts Sicily. Mr. Zangara conferred also with Commander Florio, who works cheerfully, with commendable interest, to bring to a finish, in the shortest term, the preparatory labors. * * *

Commander Florio has already concluded many contracts with various Sicilian producers, and is very confident of success in the undertaking.

To-morrow, Advocate Zangara will have another conference with the Minister Codronchi and with Commander Florio, having concluded nothing definite.

[From the Corrière di Catania, May 28, 1896.]

EXPORTATION OF SULPHUR.

From the statistics of importation and exportation published under care of the general direction of the revenue, it is shown that the sulphur exported from Italian ports to foreign countries during the first four months of 1896 were 166,601.5 tons; in 1895, 120,766.3 tons; in 1894, 115,477.8 tons; in 1893, 141,656.3 tons; in 1892, 117,041 tons. The greatest exportation was to North America, reaching 61,236.8 tons, against 22,121.7 tons in 1895, 28,131 tons in 1894, 44,046.7 tons in 1893, and 24,381.6 tons in 1892.

Besides to North America, the principal exportations were: To France, 26,417.8 tons; Greece, 12,937.3 tons; Portugal, 10,652 tons; Spain, 8,207.8 tons; Great Britain, 9,876.2 tons; Austria-Hungary, 7,611 tons; Turkey, 5,551.9 tons; Russia, 5,172 tons; Sweden and Norway, 5,111.4 tons; Germany, 4,659.7 tons; Belgium, 2,254.5 tons; Holland, 1,019.2 tons;

Central and South America, 1,019.2 tons; other countries, 4,854.6 tons. There was a slight decrease in the exportations to France, Germany, Great Britain, Russia, Spain, and Central America. In all the other states, there was an increase.

[Cablegram.]

PALERMO, *June 9, 1896.*

STATE DEPARTMENT, *Washington.*

Formation of trust, composed of English and Italian capitalists, for monopolizing sale of sulphur will largely depend on contracts signed by proprietors of mines.

SEYMOUR.

A NEW BUTTER-MAKING MACHINE.

A machine invented by Mr. Salenius, a Swedish engineer, makes butter in about a minute from sterilized milk direct. Milk is heated in the sterilizer (or "Pasturine," as it is called) to 160° F., and runs into the cream-skimming chamber of the machine. As the cream is skimmed it rises into the churning chamber, being cooled down to 60° in its progress by means of very small cooling frames, through which ice water constantly passes; these revolve with the skimmer at the rate of 6,000 revolutions per minute.

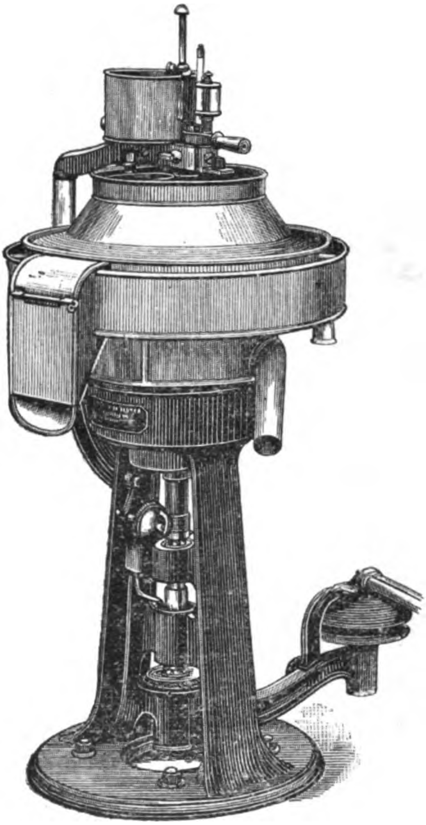
The cream is forced into a tube perforated with tiny holes, through which it emerges with great force upon each fresh layer of cream that rises, converting it into butter by concussion. The butter, thus formed by granules, emerges from a spout into a tub, mixed with buttermilk. The butter is then taken out and passed through a butter worker, which squeezes out most of the buttermilk remaining, after which it is placed on ice for two hours, and then worked a little more and made up.

Several advantages are claimed for this remarkable machine, which bids fair to create a revolution in butter making upon a large scale. In the first place, by pasteurizing the milk, disease germs, if any are in it, are destroyed, as well as the microbes which cause putrefaction of the butter. The process of butter making is so rapid that there is very little chance of any germs that may exist in the atmosphere of the dairy getting into the butter, especially as all, or nearly all, air must be forced out of the chamber of the machine by the extreme rapidity of the movement going on inside. When the butter is once pressed, the possibility of germ impregnation is almost eliminated. Thus, a wholesome and long-keeping butter is produced. Another advantage is that milk can be converted into butter directly after being obtained from the cow; and yet another is that there is a considerable saving of labor, when the use of the "radiator" is compared with that of the ordinary separator and churn.

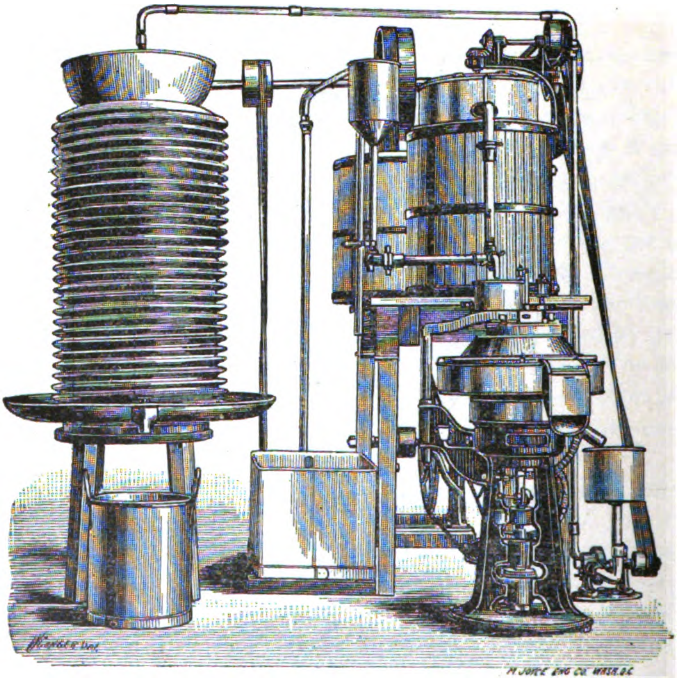
This machine has been in use several months in Sweden and Finland. In London, the demonstration of its merits created a sensation among the dairy farmers.

THOS. B. O'NEIL,
Consul.

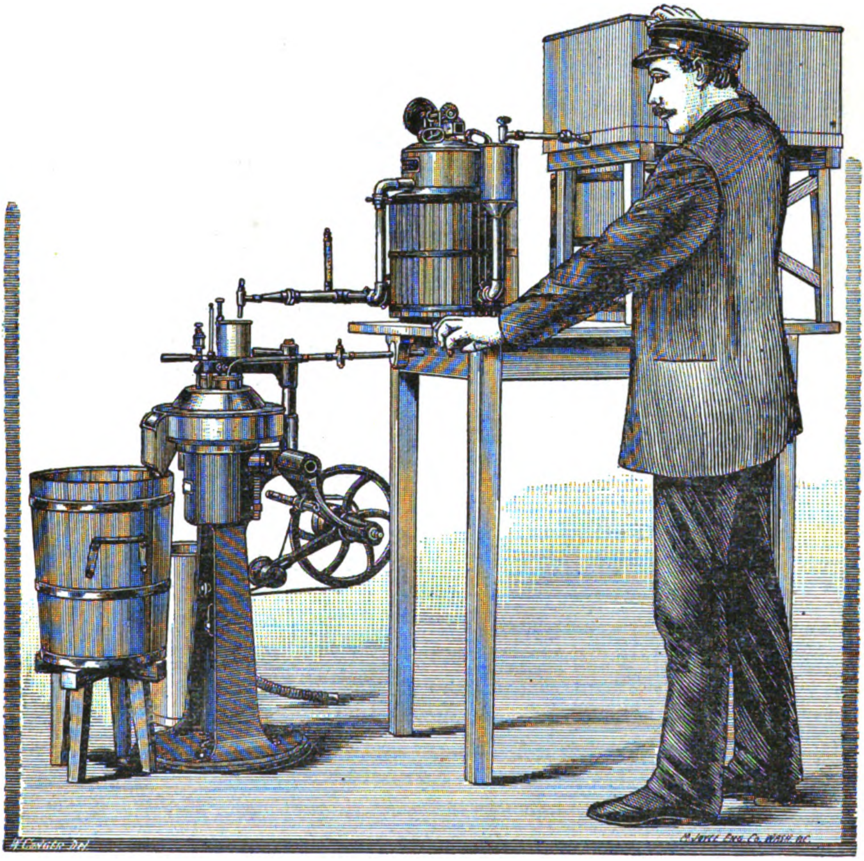
STOCKHOLM, *May 21, 1896.*



RADIATOR CHURNING AND SKIMMING MACHINE.



THE LARGER RADIATOR IN POSITION, WITH THE APPARATUS BELONGING TO IT.



THE SMALLER RADIATOR CHURN. CAN CHURN ABOUT 500 LITERS (132 GALLONS) OR LESS DAILY. IT COSTS, COMPLETE, WITH STEAM ENGINE AND STEAM PAN, 1,300 CROWNS ($348.40).

MILKING MACHINE, OR LACTATOR, IN SWEDEN.

By friendly permission of Dr. de Laval, I had the pleasure of seeing this wonderful apparatus in operation at his estate, Lilla Ursvik, Spangå County, Sweden, where experiments have been going on since October last under the management of Mr. Abr. Forssell.

It has been thoroughly tested and found perfectly satisfactory to introduce to farm owners. The milking itself—that is, the evacuating of the udder—is effected by mere mechanical working of the teat and not, as lately appeared in the press, by combined squeezing and sucking. Artificial suction has proved to be rather impractical and injurious when repeated too often, and this is the reason why such a method has been omitted in constructing the lactator.

The milking is done by two special "organs," or a pair of cylindrical rubber rollers, that catch the teat at the root, thus shutting off the milk therein. The rollers then move downwards to the lower part of the teat, from whence the milk is squeezed out by two plates moving parallel with each other. The function of the rollers is rendered possible by a hold above—the so-called roof that is regularly moved against the udder, whereby a slight thrust is given to the udder, something like knocks that the calf gives when sucking, which facilitates the descending of the milk in the teats as well as the secretion of the milk in the vesicles of the udder.

Every milking machine has four different arms, one for each teat, which, although with joint axle, work independently of each other and even alternate in their movements. Their adaptation to the udder is done instantly. The arms move very easily on joint and spring arrangements in every direction without losing the necessary steadiness. The pressure against the udder is effected through the apparatus being fastened on to a horizontal rod and so balanced that the front part, which contains the driving mechanism and is considerably heavier, presses the lighter back part against the udder. This pressure can be increased, if necessary, by loading the front part still more.

The axle, that is common to the four arms, acts on a very ingenious, but, at the same time, very simple system of eccentric pulleys and levers. The rotation of the axle is effected through a cord that is led over the heads of the cows, and is common to all the machines. Through a simple coupling, this cord gives a speedy rotation to a flexible axle, through which the rotation is communicated to the axle of the four arms by means of a coupling, which is done in an instant.

The placing of the apparatus on the cow is a very easy performance. A belt that carries the rod is strapped on the cow with a single buckle. The apparatus is first started and then put on the rod and the different arms are adjusted under their respective teats, which the rollers then immediately seize and the milking begins.

The milk is conducted through funnel-shaped so-called "teat protectors" and short rubber tubes to a small tin cup that is hanging in these tubes, from whence through a vacuum arrangement it is drawn up to a tin bucket that hangs above the head of the cow. From the moment the milk leaves the teat protectors till it gets into the tin bucket, it has not had any connection with the outer air. Even if the apparatus works awhile after the udder gives no more milk, and consequently the tin cup also becomes empty, no air enters on account of an automatic arrangement, and this has the result that the milk is as free as possible from bacteria and keeps longer.

By using the lactator, the great trouble to procure and control dairy maids is avoided; besides, the milking is done in a sufficiently clean manner to meet all hygienic demands. The dairy products will, of course, at the same time keep longer and become more valuable.

Can the ordinary dairy people handle the machine? is a question that is asked before one has witnessed the ease with which the machine is managed. It is the intention of the company to send out experts (men or women) to every place where these machines are installed, who are to teach the dairy people and will remain until they have given thorough instructions with regard to the working of the apparatus.

Does the machine empty the udder perfectly? This seems to be one of the most important qualifications the machine ought to have, and, fortunately, this question can be satisfactorily answered. When this was tested and the apparatus had ceased to give any more milk, hand milking was tried, with the result that there was no milk left in the udder. We convinced ourselves that such really was the case.

Is the machine injurious to the udder? No. The cows seem, in fact, to enjoy being treated by the machine. Even cows that never became accustomed to hand milking and always showed impatience during that performance seem to be much pleased with the working of the apparatus. To find out whether the machine would hurt the udder when left working after the evacuation, the apparatus was recently left operating on a cow for an hour and a half after the udder was emptied. During all this time, the cow showed no impatience; neither did anything point to an abnormal activity in the udder; no blood was absorbed nor had the teats suffered any injury.

Does the apparatus reduce the milking power? This question is a very difficult one to answer before the machine has been in use a certain length of time. It is, however, a pleasure to be able to make a few statements in this respect that tend to show that the apparatus, in this important matter, has an advantageous rather than a contrary effect, viz, that it seems to preserve the milking power, as is shown in the case of two young cows of mixed Shorthorn and Ayrshire breed, bought from the same place, calved on the same day in October last, about equally developed, in the same good condition, and had always had the same food. The one has, since the middle of December last, been milked by the lactator, the other one by hand. While, in November and December, both gave exactly the same quantity of milk per day—about 10 liters—the one milked by hand began gradually to dry up in January, so that the quantity now is down to 7.9 liters. The other one, however, that was milked with the lactator during all this time still gives about the same quantity, or 9.2 liters. In another instance where the lactator was used all the time, an old Dutch cow, that calved in July last, right after the weaning gave 19 liters per day, increased to 23 liters very soon, and now, after more than six months, gives 15 liters per day.

Another objection to the use of the lactator has been raised in the suggestion that the cows would not get fervent. This has, however, during this time of experiments proved to be absolutely false.

We shall now consider the cleaning of the apparatus, which is always believed to be a very complicated affair. Not a single part of the machinery comes in contact with the milk; it is only the teat protectors, the rubber tubes, the tin cup, and the bucket that need a thorough cleaning after each time the machine has been used. For the cleaning of the rubber parts, a very ingenious rinsing tub, that belongs to every outfit, is used. This has a pump to which the tubes are applied. In this, the cleaning is done easily and thoroughly with crystallized soda and water. The daily cleaning of all other parts consists principally in dusting them off. On our visit at Ursvik, we took special interest in examining the six machines that had been in use and we could not detect a single drop of milk on any part of the machinery itself.

If question should be raised as to the number of cows that would necessitate milking by the lactator, the reply is, two persons can easily attend to ten machines at the same time. Therefore, it is, of course, more valuable to large dairy farms than to smaller ones. It is, however, likely to be profitable for smaller dairies also. The apparatus works with a speed of about ninety "squeezings" a minute.

The machinery and the vacuum pump need no more power than can be obtained from almost any source of power. There is, however, a special motor being constructed that will fill all requirements in this respect.

Every doubt as to the feasibility of constructing a practical milking machine seems, from the thorough experiments that have been made with this machine, to have been overcome.

THOS. B. O'NEIL,
Consul.

STOCKHOLM, *May 16, 1896.*

GRAIN CROP OF EUROPEAN RUSSIA.*

At present, the grain trade is in that quiet state which generally characterizes the last months of spring and the first of summer, when probable calculations and suppositions about the quantity and quality of the coming grain harvests are made. In view of the interest which information concerning the condition of the growing grain excites, I have watched the results as collected and reported up to the 1st of June, 1896, throughout European

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*Reports in detail from the different districts referred to the Department of Agriculture.

Russia by reliable correspondents of the commercial class. In general, those reports show that the apprehensions of the agriculturists of many localities that, owing to the lateness of spring and the cold weather during the first vegetative period, the grain would suffer to a great extent, has not been realized. There are only the region of the Azov Sea from the districts of Melitopol and Berdiansk up to Eisk, and in the Lower Don and northern Caucasus, some of the Baltic governments, and some portions of the central Chernoziom region in which the winter grain does not look satisfactory. In all the remaining agricultural governments and districts of European Russia, the winter grain is in a satisfactory condition; in fact, owing to the favorable weather in May, the condition of the grain may be called good or above middling in all the principal grain regions in the whole of the Volga basin, in the central Chernoziom region, in the southern steppes, and in the western and southwestern governments. The condition of the spring grain is reported throughout to be favorable, except on the coast of the Azov Sea.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *June 8, 1896.*

ARTIFICIAL SILK IN FRANCE.*

Artificial silk is soon to be manufactured at Rheims and Fismes, the latter a neighboring town situated 19 miles west of the metropolis of the northeastern part of France. The erection of buildings for this new industry has actually been commenced.

This silk is called "Chardonnet silk," after the name of its inventor, and, although the process of manufacture is not yet fully known, it is asserted that the modus operandi is somewhat similar to that of the silkworm itself. The silkworm eats mulberry leaves and, after a mysterious transformation which takes place inside of the insect, it emits through the mouth an extremely fine thread, which it uses to spin its cocoon; this thread is silk.

The process for the manufacture of artificial silk is based upon that employed by nature. The first thing used is wood—for mulberry leaves are in reality the equivalent of mulberry wood. The wood is worked into a paste which, after being dipped in nitric and sulphuric acids, is dried and placed in a bath of ether and alcohol at 90°. A transformation takes place and a kind of glue or collodion is the result.

Such is all the preliminary work necessary; such is the material with which the artificial silk is to be produced.

The collodion is placed in strong metallic cylinders, where it is subjected to high pressure and runs in pipes of the size of ordinary gas pipes. These pipes are laid horizontally, as a footlights pipe in theaters, and, similarly to the latter, small faucets are fastened at regular intervals over their whole lengths. The appearance of the apparatus can not be better compared than to a footlights pipe with its gas-burners.

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*For previous reports on the manufacture of artificial silk, see CONSULAR REPORTS No. 171 (December, 1894), p. 538; No. 173 (February, 1895), p. 273; and No. 177 (June, 1895), p. 266.

A woman opens a faucet, and, from a glass tube, an extremely fine thread is seen emerging. It is the collodion driven by the pressure. The small glass tube replaces in the manufacture the mouth of the silkworm. The thread, as it comes out of the glass tube, is so fine that it is necessary to twist six of them together before winding on the spool. The silk so made is then rendered incombustible, and the skeins are thrown into ammonia for the purpose of neutralizing the sulphuric acid.

Two grand prizes were awarded to Mr. Chardonnet for the exhibition he made of his artificial silk at the Lyons Exposition of 1894, and the committee of awards, in their report, highly praised the merits of his invention, which seems destined to greatly increase the importance of the already considerable textile industry of France.

The public of this region is watching with marked interest the development of this new enterprise, which, in case of success, will furnish steady work to the too many weavers of the city—victims of the business depression, which for several years past has reduced the output of the once famous and prosperous woolen mills of Rheims.

HENRY P. DU BELLET,
Consul.

RHEIMS, *April 10, 1896.*

ARTIFICIAL SILK IN ENGLAND.

I have the honor to inclose an article describing the process of manufacturing "wood silk," or artificial silk yarn, from wood pulp. A product known as wood fiber, or cellulose, is now largely produced in Maine, New York, Michigan, and Wisconsin, in which the fiber is preserved and not destroyed as in the manufacture of pulp. This would doubtless prove far more desirable for use in the new industry referred to than the pulp.

A. D. DICKINSON,
Consul.

NOTTINGHAM, *May 5, 1896.*

[From the London Times, April 2, 1896.]

A NEW BRITISH INDUSTRY.

There will shortly be started in Lancashire a new industry of a character so novel that the mention of it may appear to be suggestive of an absurdity rather than a sober truth. It will be one for nothing less than the manufacture of silk out of wood pulp. Quixotic as the idea seems, it has already been established that silk, or, rather, artificial silk, can be so made; that it can be used for the many purposes for which natural silk is used, and others besides; that it is especially suitable for working up with natural silk, cotton, or wool for dress material, ribbons, trimmings, church decorations, vestments, etc.; that the artificial silk can scarcely be distinguished from that for which we have hitherto depended on the silkworm; and that it can be sold at prices very much lower, and still leave a substantial profit. Dress and other fabrics made from this wood silk are, indeed, already being sold extensively in London as among the leading features of this season's Paris novelties; though the appearance of them is so close to that of the ordinary silks, and so little has been said of the new discovery, that neither the ladies who have bought them nor, indeed, the shopkeepers who have sold them have realized the change that has been brought about in the process of manufacture.

At present the wood silk comes from France, large works having been established at Besançon under patents granted to Count Hilaire de Chardonnet, chevalier of the Legion of Honor, who discovered the process, and first established in 1893 the fact that it might be made into a commercial success. Since then the demand for the new commodity has far surpassed the existing powers of manufacture; and some months ago the idea was mooted of adding to the number of our own industries by arranging to make the artificial silk in England as well. The project seemed to be especially desirable in the interests of Lancashire, whose commercial prosperity has been seriously threatened of late, while it was pointed out that Lancashire weavers are much more skillful than the French in working up those textile combinations for which the artificial silk is particularly, though not exclusively, adapted. A number of silk and cotton manufacturers met to discuss the question, and finally sent out to Besançon a deputation consisting of some of their own number, an engineer, a chemist, and a lawyer, to investigate the subject thoroughly. This was done, and the outlook was found to be so promising that certain concessions have been secured and a company is now in process of formation, and, to begin with, a factory, which will cost £30,000, is to be built near to Manchester for the manufacture of artificial silk yarn from wood pulp, for sale to weavers, who will work it up by means of their existing machinery. Inasmuch as six weaving firms have already arranged to take the total output of the factory, even before a single brick has been laid, and as others are proposing to put down a plant of their own to be worked on the royalty system, there is evidently good reason for the expectation that Lancashire is on the eve of some important expansions in her textile trades. The prospects are the more satisfactory because the concessions which have been secured specially stipulate that continental makers of the artificial silk are not to send their yarn to England, while the international patent laws will, now that the rights for Great Britain have been bought up, secure that henceforth neither the yarn nor the goods manufactured therefrom shall be imported here. Thus, although the original idea comes from France, the industry, so far as this country is concerned, will be essentially British, and will be carried on without fear of foreign competition on our own shores. At the present time our imports of articles manufactured from silk are so extensive that last year they amounted to £15,237,000, and those of raw and thrown silk to £1,883,000, or a total of £17,120,000; but now that industrial ingenuity has shown that the silkworm can be supplanted by any sort of timber, there is thought to be a good prospect of distributing a good deal of this money among our own workers instead of sending it abroad.

The way in which wood pulp can be converted into silk yarn will be best explained by a brief account of the process as it is already at work at Besançon. A certain economy of labor is practiced by obtaining the wood when it is in its "paper" or "cardboard" condition (though waste cotton may also be used), and the first operation is to macerate it in a solution of nitric and sulphuric acid. After this the acids are squeezed out by a hydraulic press, and the stuff is thoroughly cleansed in large vats of water. It is then partially dried, and afterwards left for some hours in a revolving cylinder containing alcohol and ether. After this it is passed through a filter, which it leaves looking very much like thick gum, and is next put in cylinders, from which it is forced by pneumatic pressure into pipes passing into the spinning department. Here the machinery looks like that employed in Lancashire spinning sheds, except that one of the pipes referred to runs along each set of machines. These pipes are supplied with small taps, fixed close together, and each tap has a glass tube about the size of a gas-burner, at the extreme point of which is an aperture so minute that the filaments passing through no fewer than ten of them would be required to make up the thickness of a human hair. These glass tubes are known as "glass silkworms," and some twelve thousand of them are in use in the factory.

The effect of the pneumatic pressure in the cylinders referred to above is to force the liquid matter not only along the iron tubes, but also, when the small taps are turned on, through each of the glass silkworms. It appears there as a scarcely perceptible globule. This a girl touches with her thumb, to which it adheres, and she draws out an almost invisible filament, which she passes through the guides and on to the bobbin. Then, one by one, she takes eight, ten, or twelve other such filaments, according to the thickness of the thread to be made, and passes them through the same guides and on to the same bobbin. This done, she presses them together with her thumb and forefinger, at a certain point between the glass silkworms and the guides. Not only do they adhere, but thenceforward the filaments will continue to meet and adhere at that point, however long the machinery may be kept running. In this way the whole frame will soon be set at work, the threads not breaking until the bobbin is full, when they break automatically, while they are all of a uniform thickness. The remaining processes are the same as in the case of ordinary silk, except in two respects. In the first place, the artificial silk has to be denitrified, so as to render it noninflammable after the chemical processes it has undergone; and, in the next place, the hanks are placed on two revolving rollers which stretch and also "iron" them, producing that high degree of luster which is one of the chief characteristics of the artificial silk. The new product is said to take dye much more readily than the natural silk, and certainly the colors and the extreme richness of some specimens that have been on view in London seemed to leave nothing to be desired in this respect. The chief difference in appearance between the natural and the artificial silk is in the greater luster of the latter; though it will be found also that if a single thread of each is taken the artificial will "break" differently from the natural, and has only about 80 per cent of its strength.

The success already secured by the new process in France is such that the introduction of the industry into Lancashire is expected to produce something like revolution in the conditions of trade there, not only by bringing into existence a new occupation, but also by finding more work for a good deal of the weaving machinery that is now only partially employed; while the weaving of "silk," or what only experts will be able to distinguish from silk, will be rendered possible in the case of a vast number of people to whom the product of the silkworm is more or less a prohibitive luxury. All the same, there will probably be some sentimental regret that the silkworm itself, which has played so important a part in the clothing of the peoples of the western world since the middle of the sixth century, should thus run the danger of being supplanted by liquefied timber; though the discovery that clothing can be made out of wood pulp is, after all, no more remarkable than that which was made by the Persian missionaries who visited China thirteen hundred years ago, and learned to their surprise that garments could be made from the cocoons of a caterpillar.

GERMANY'S TEXTILE INDUSTRIES.

The German Empire is making great efforts everywhere to meet the merchants of Manchester, Liverpool, and London as competitors in the world's markets. The politics pursued by the Reichstag since 1880 has helped to build on so firm a basis that the present prosperity in textile centers promises to be permanent. Branches of business that bowed under burdens too heavy to be borne with success or safety have sprung up into self-reliant attitudes. Enterprise and capital combined were the factors in forcing foreigners out of the Empire's emporiums and pushing Germany to the front. To-day she supplies most of her own needs from her own factories. Only in fine yarns is she dependent on England. Even these, I am told, are to be made here. Art is to assist and supply in the way of climate, so far as possible, what nature has denied. Judged by its use of raw materials, the Empire ranks to-day among the biggest producers of textiles in the world. Most of the raw materials, it may be remarked here parenthetically, come to her from countries beyond her borders, and much from beyond sea. Even here, one hears of efforts being made or to be made to assist agriculture to produce as much as possible of the raw materials bought from others.* Cotton and jute can not, of course, on account of the climate, be successfully cultivated in any part of the Empire. Raw silk can, at least it is thought so, and efforts are to be made to determine the question. The value of land, the intensity of agricultural interests, the cheapness of wool and mutton coming from other countries, have driven the sheep almost entirely to the hills, where forests are found, for the most part, rather than sheep fields. Recently, agriculturists have been urging members of the local governments and the Reichstag to bring in bills to compel the Government tailors, etc., to use only cloth from hemp and flax grown by German farmers. How much success they have had or will meet with, it is hard to say. The Empire bought since 1880 of raw materials as follows, in tons of 1,000 kilograms (2,204 pounds):

Year.	Imports.	Exports.	Excess of imports.
Cotton.	*Tons.*	*Tons.*	*Tons.*
1880	148,654	11,917	136,737
1885	166,771	9,461	157,310
1890	250,560	23,921	226,639
1895	300,887	33,826	267,061
Wool.			
1880	68,755	14,325	54,430
1885	98,790	10,095	88,695
1890	128,614	9,014	119,600
1895	183,202	11,223	171,979
Flax.			
1880	36,369	23,230	13,139
1885	57,168	34,157	23,011
1890	60,691	26,248	34.443
1895	64,929	26,290	38,639
Hemp.			
1880	40,689	23,541	17,148
1885	41,603	22,377	19,223
1890	51,867	25,513	26,354
1895	49,249	21,145	28,104
Jute.			
1880	17,564	245	17,319
1885	41,900	787	41,113
1890	70,938	1,129	69,809
1895	113,828	7,538	106,290
Raw (uncolored) silk.			
1880	1,948	883	1,065
1885	1,736	286	1,450
1890	2,310	526	1,784
1895	2,830	175	2,655

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* The Empire ordered that linen goods intended for imperial purposes, *i. e.*, for the marine and military, must be made from yarn made in Germany and from flax grown in Germany. How far this policy will find favor with manufacturers remains to be seen. The farmers welcome it as the small end of the wedge that is to help them from "hard times" to eras of prosperity equal to those enjoyed by commerce and manufactures under the ægis of the Empire.

Germany's cotton comes to her in large quantities from India,* Egypt, and the United States. Saxony alone takes 500,000 or 600,000 bales of from 400 to 700 pounds each, the weight of each bale depending on the country whence it comes. But Saxony buys in Bremen and Liverpool rather than from the merchants of Memphis, Galveston, Atlanta, and New Orleans.† Letter after letter has been sent to influential men in the South urging them to exploit or examine this market for the purpose of selling to it direct, but to no avail. England, with hardly half our interest in this market, has her agents right here in Chemnitz, the very heart of the Kingdom. Many of these agents are experts. They go from town to town, soliciting trade as eagerly as if they expected to meet or be followed by splendidly equipped competitors. Until some such system is adopted by us, we must make the best of a bad policy and be satisfied to go on planting for the profits of middlemen, not at home, but here and in England.

What the Empire is undertaking, in the matter of raw material especially, we might successfully emulate. Surely, silkworms will find happier homes in which to thrive in California, the Carolinas, Virginia, Florida, and all our Southern States than here, in a climate harsher, in its abundance of rainstorms, than that of New England. Our silk industries are among our most important. Paterson, N. J., and Manchester, Conn., are rapidly rivaling Lyons and Crefeld. The cocoons that come to us from Italy and China are among the most expensive articles in our list of imported raw materials. I have seen as fine mulberry trees in Dorchester, outside of Boston, as I ever saw in Italy. Of course, they were not particularly cultivated for their leaf,‡ but rather for their fruit. If the plains of Lombardy and Piedmont can be covered by so profitable a product, I see no reason why what are now wheat fields in Texas and Tennessee and wastes in Washington, Oregon, and Arizona might not be made to yield to husbandmen in America the millions we pay to others. The silkworm was no more indigenous to Italy than to us. The industry found its way into Italy via Sicily, an island in the extreme south, opposite Calabria, in latitudes lying between 35° and 40°, or equal to those of the Carolinas, Virginia, Maryland, etc. Of course, the States named are by no means so warm as Sicily, but it must be added, and never lost sight of, that Italy's best silk fields are those of Piedmont and Lombardy, in the extreme north of the Kingdom, in latitudes around 45°, much further north than New York, in a climate similar, in many respects, to that of New York or New England.

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* There came to Hamburg from India, in the year 1892-93, 220,000 bales, each weighing 400 pounds, and to Bremen, 8,000 bales; in 1892–93, 243,000 bales to Hamburg and 12,000 to Bremen; in 1893–94, 270,000 bales and 14,000 bales, respectively; in 1894–95, the amounts were 70,000 bales and 14,000 bales. Trieste took in those years, 166,000 bales, 143,000 bales, 170,000 bales, and 137,000 bales; Antwerp, 143,000 bales, 180,000 bales, 200,000 bales, and 128,000 bales. Some of these may have found their way into Germany. India sent Europe from the 1st of September, 1895, to August 31, 1896, 1,270,000 400-pound bales. The year previous she sent 770,000 bales. Of India's yield, England takes only 10 to 15 per cent, Japan 15 per cent, and China a small amount; the bulk—70 to 75 per cent—comes to continental Europe. The reason why no real rise took place this season in the price of American cotton, notwithstanding the short crop—7,000,000 bales, against 9,900,000 bales for the previous season—will be found in the fact of India's increased yield.

† Formerly manufacturers did a big business direct with our cotton-growing States. They are not only willing, but eager, to do so again; but guaranties that goods equal to sample will be delivered will be demanded. During the times referred to some manufacturers suffered from losses due to rubbish having been mixed with the cotton; others, from not getting goods equal to sample. What is wanted is firms willing to give guaranties that, when a certain kind of cotton is ordered, that and no other, unless a better, will be delivered. The claim is made that better results are achieved with cotton all of one kind than from mixtures. I see no good reason why, when a manufacturer orders Tennessee or Georgia or any other kind of cotton, he should not get it. This is the complaint, "We don't (or didn't) get what we ordered." What is true of Saxony is doubtless true of all other parts of the Empire. It seems too bad to let so good an opportunity for strengthening our hold on this market go by default. Cotton must be bought; this is one of the things they can not raise themselves. Next to England and the United States, Germany uses the largest quantities of the raw material. Our production far exceeds the home demand. Egypt must always remain but a weak rival; for, while the quality of her cotton is excellent, the quantity must forever remain small. India and Africa are our real rivals, and these should find it hard work to oust us, when once firmly established, especially if Germany is to continue to send us, as now and hitherto, hundreds of millions of manufactured articles. Nobody knows better than her merchants that the relations of trade, to be permanent, must be based on reciprocity.

‡ The silkworm feeds on the leaf and not on the berry.

I may say here that an English textile magazine has employed one of the leading textile experts of Saxony to write a series of reports, in the form of letters, covering the entire textile industries of this section. The picture being unrolled is truthful, and, therefore, far from pleasant reading to Leicester and Nottingham. The reports present facts little calculated to encourage competitors. Machines made in England, and of which, for a long time, she held the monopoly, are made here now by the hundreds, and hardly less perfect than those made in England. The Germans care little that England calls them copyists. They go on building and bettering till they take away markets in which England maintained for years an exclusive supremacy. The writer referred to bewails England's lack of wisdom in selling Saxons such machines. Nor is it because labor is so very much cheaper here than in England that Germans are succeeding in getting trade in parts of the world whose ports, before 1870 or even 1880, had never opened to a German ship. It is because it is better organized, more easily satisfied, and less restless. The difference in wages, product against product, is in Germany's favor. I am here in the very heart of the textile world and I have yet to hear any murmurs that mean any more than "we would like to be better off; but times are hard and we have to bear with present rates till times are better." But that is the complaint in all countries in the best of times.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *March 21, 1896.*

GERMANY'S WOOLEN INDUSTRIES.

The leaders of the woolen industries of the German Empire, conscious of the excellence of the wares of their great competitors, especially the French, English, and Scotch, have made every effort to not only regain the home market, but to meet their opponents in parts of the world hitherto held almost exclusively by the English and French. The task of answering all demands of the times, in the matter of fashion, form, quantity, and quality, has been accomplished. While it is true that Germany must buy large quantities of woolen yarns from England, it is also true that she is resolved to be independent, and is rapidly putting herself into a position to supply all the demands of her cloth manufacturers. Her woolen goods have gained a great deal in quality and color. The earnest efforts of the manufacturers have been aided by Government assistance and encouragement in the way of technical schools, exhibitions, etc. Aix la Chapelle, in the Rhine Provinces, Gera, Greiz, and Crimmitschau, in Saxony, are sending tons of goods worth millions of marks to the United States, Australia, Africa, South America, India, and China.

SPINDLES.

The number of spindles in Germany's woolen industries went up from 1,669,759 in 1861 to 2,787,373 in 1875 and to 3,600,000 in 1896. Of these, 1,600,000 spin worsted and 2,000,000 carded yarn.

USE OF RAW MATERIAL.

The amount of raw wool spun in 1860 was 41,430 tons of 2,204 pounds each; in 1895, 198,479 tons. The imports of raw wool were 18,300 tons in 1860, against 183,202 tons in 1895. The exports of raw wool were 4,770 tons in 1860, 20,100 tons in 1875, 9,014 tons in 1890, and 11,223 tons in 1895.

PRODUCTION OF RAW WOOL IN THE EMPIRE.

The production of raw wool went up to its highest point—38,580 tons—in 1865, and it gradually sank to 22,500 tons in 1895.

SHODDY.

The imports of shoddy wool were 5,325 tons in 1880, 12,240 tons in 1890, and 12,845 tons in 1895. The exports were 14,168 tons in 1880, 14,663 tons in 1890, and 15,341 tons in 1895.

Back in the forties, Germany led the nations of Europe both in the quantity and quality of wool produced. Her exports largely exceeded her imports, and the breeding of wool-producing sheep was one of the most important, as it was one of the most profitable, branches of farming. This is entirely changed; first, because of the increased value of land for other and better-paying products, and, second, because of the enormous production in foreign parts, viz, in the Cape colonies, lands along the La Plata River in South America, and in Australia. Hence, the wool produced here covers only one-sixth of to-day's demands; nor does even that pay for the efforts put forth in competition against the products of the lands cited. Nor is much to be made out of the new move to encourage the use of home products, manifested more particularly in an effort to compel merchants manufacturing supplies for the military and marine to use German products exclusively.

NUMBER OF SHEEP IN THE EMPIRE.

About 1860, Germany had, in what now makes up the Empire, 28,000,000 sheep; in 1873, she had 24,999,406; in 1883, 19,189,715; in December, 1892, 13,589,612. In 1860, there were 52 sheep to each square kilometer of territory; in 1892, only 25.1. In 1860, to each 100 inhabitants, 73 sheep; in 1892, 27.5. The wool-producing sheep suffered most, for they came first into competition with foreign ones. As Germany went down, the Cape colonies, Australia, and La Plata went up. The imports from the Cape were 60,000 bales in 1886, 78,000 bales in 1890, and 104,000 bales in 1895.

INFLUENCE OF MODERATE TARIFFS.

Moderate protective tariffs are said to have helped the German woolen manufacturers to hold not only their own, but to obtain a fair share of the markets in lands not yet advanced far enough to manufacture for themselves. At least, this is the claim made by the writer from whom I obtained most of my facts. In 1895, the Empire used three times as much raw wool as in 1865; had won back all the home markets held hitherto almost entirely by England and France, and had gone out into all parts of the world with the surplus products of her woolen looms, winning new fields from her powerful rivals.

EXPORT OF WOOLEN YARNS FROM GERMANY.

That the above is no fancy picture, is proven by facts. The export of woolen yarns went up from an average of 101,000 centners* during the sixteen years from 1872 to 1887 to 181,000 centners in 1895. During the same time, the export of woolen cloths and wares went up from 390,000 centners to 616,000 centners, while the imports of the latter (woolen wares and cloths) went down from 86,000 centners to 31,600 centners.

HOW IT HAS BEEN DONE.

All this success had its origin in the simplest of causes. The German has no hesitation in getting aid where and when he can. He originates, copies, and combines. He has his agents in France, Belgium, England, Scotland, and the United States. He collects patterns and designs, and experiments until he obtains an article equal to the original, or so nearly equal as to replace it by means of considerably reduced prices. He has a hundred economies in his factory unknown to the English or to our manufacturers, or, if known, never practiced. He has also no hesitation in imitating English or American machines. This he does, too, very successfully. He buys one or two, takes them apart to make models, reconstructs, recombines, and gets remarkable results.

Phenomenal as has been the Empire's success in textiles during the last twenty-five years, the success in the iron industries has been greater. Nothing pays now in Saxony so well as the many knitting, weaving, and spinning machine-making shops. Large woolen mills are being erected all over this Kingdom, and what is true here is true of the whole Empire. We, too, are watched. The local papers give columns to the discussion and consideration of United States woolen manufactures.

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* 1 centner=112 pounds.

The official organ of the Government in this city has a long article in this morning's issue dealing with the condition of the United States woolen industries. The Frankfort Times had a similar article two or three days ago. They know what they want and are earnestly working to obtain it. They have cheaper labor than we have; but that is only one factor—not the greatest—in their success. They win because they do everything to command success. They economize where necessary, and they are enterprising to rashness where enterprise is needed. They will send samples, worth a great deal of money, free, wherever and whenever it is a question of winning new markets.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *May 6, 1896.*

AMERICAN SHOES FOR GERMANY.

The time has apparently arrived when the perfection of the tanning industry in the United States, the state of the leather market, and the conditions of popular demand combine to favor an important increase in the export of American shoes to Germany.

Some months ago, it was noted in several consular reports from this country that an Italian firm or syndicate had opened shoe stores in the leading German cities, where shoes of different patterns were offered at uniform prices of $2 and $2.50 per pair. These agencies at Berlin, Frankfort, Dresden, and, generally, throughout southern Germany appear to have been quite successful, but at Hamburg, the enterprise failed, for the reason that the soft, spongy, Italian leather could not withstand the mud and wet of that humid climate.

During the past year, an association of manufacturers in Boston has opened at Berlin a store for the sale of men's, women's, boys', and girls' shoes, and, from all accounts, its success has been as prompt and satisfactory as that of the similar establishment of the American Shoe Syndicate in London, which has created such alarm among British manufacturers and economists.

But, perhaps, the most significant symptom is the fact that there is now, among German shoe dealers who cater to the better class of trade, a definite inquiry for shoes of American patterns. It should be understood, in explanation of this demand, that in respect to all details of dress, as well as in house building, railway cars, and many other articles of comfort and luxury, Germany has made enormous progress during the past ten years. With the general increase of wealth, the demand has been stimulated for many of the refinements and elegancies of life for which the people of a generation ago, outside of a limited circle that included mainly the wealthier nobility, knew and cared but little.

The fact has become recognized by a constantly increasing number of people in this country that in respect to certain specialties of manufacture, including chrome-tanned upper leathers and factory-made shoes, the Americans hold a clear and undisputed lead over all other manufacturers, not excepting those of Great Britain, to whom Germans have long been accustomed to look for standards of excellence. English-made shoes are generally substantial and comfortable, but those of the best American makes are not only all this, but have besides an elegance of form and finish hitherto unattained, except by a few high-priced custom shoemakers in London and Paris. While the wages of shoe manufacture are higher in the United States than in any part of Europe, our manufacturers enjoy three distinct advantages over all competitors, viz, better and cheaper upper leathers, superior machinery, and a factory system so perfect as to more than balance the greater initial cost of their more skillful and more efficient labor. The net result of all these facts and conditions is the opportunity which to-day presents itself for a large and permanent increase of American shoe exports to Germany.

From a practical standpoint, the subject involves the two usual questions, What special kinds of goods are best adapted to meet the existing demand, and how best to organize and conduct the business?

From the most trustworthy information that can be obtained, the obvious demand of the present market is for specialties like the "Douglas" and "Goodyear welt," shoes of good form and medium price, such as are retailed at home for $2.50 and $3.

Next in importance would be good, common shoes for working people of both sexes, double soled and made from split or light single upper leather. There is an especial need of good, well-made shoes of somewhat lighter quality and medium price for boys in town and country who attend school during the years which precede the age of military service.

Finally, the higher grades of walking shoes in black and brown chrome-tanned leathers, as well as fine enameled dress shoes and high, laced bicycle boots for ladies, such as are now retailed in the United States for $3.50 to $5 per pair. All these kinds of American-made shoes, if properly introduced and pushed, would, in the opinion of good judges, rapidly supersede the relatively clumsy and inferior homemade goods of the same classes with which the German market is now principally supplied.

As to the best method of organizing and conducting such a trade, there can be no serious question. The Italian and Swiss shoemakers and the American Shoe Syndicate have set the example and pointed out the way to success. It is useless to expect that individual German retailers will order and import goods directly from the United States and pay for them on the American plan of "draft against bill of lading." Unlike American pork, lard, and other food products, which can be best sold here under the pretense that they are of German origin, the chief merit of the American-made shoe is that it is American, and that fact can not be too prominently declared.

For the prompt improvement of the present opportunity, there should be an organization like the American Shoe Syndicate now operating in London, including half a dozen or more leading manufacturers whose products are well known and cover all the grades and classes of shoes above indicated, as well as such others as experience may show to be salable in this country. This association should establish at a leading seaport, like Hamburg, a principal office to land the goods, pay duties, and distribute them to subagencies in the interior, of which there should be one each at Berlin, Leipsic, and Frankfort, equipped and provided for both jobbing and retail trade. Each subagency should have an experienced traveling salesman, familiar with American business methods, to operate among the better class of dealers in neighboring towns. Sales to such dealers would probably be at first in small quantities, not exceeding a case or two at a time, and these of sizes rather larger than those which are most generally asked for in the United States.

Such an enterprise would require capital, energy, and good management, but with these assured, its success would be practically certain. The more advanced German tanners have, to a large extent, adopted American machinery and methods. The importation and local manufacture of American shoemaking machines is fully established in this district, but it will probably be many years before German factory-made shoes and certain classes of upper leathers will reach the high standards of quality and cheapness that have been attained in the United States, and the opportunity that is meanwhile offered to our shoe manufacturers is one that should not be lost.

The duty on ready-made shoes imported into Germany is 60 marks ($14.28) per 100 kilograms (224 pounds), which is certainly not an excessive tax, especially on the finer and lighter qualities, the duty on which will not, at present rates, exceed 12 to 20 cents per pair.

FRANK H. MASON,
Consul-General.

FRANKFORT, *May 28, 1896.*

THE NEW SUGAR EXPORT BOUNTIES IN GERMANY.

The sugar-tax amendment law, over which has been waged in the German Parliament one of the longest and most-determined battles of recent years, was finally enacted as a concession to the agrarian interest, and went into effect on Monday of the present week. Its influence will be to increase the sugar production of Germany, and, to that extent, exert a depressing effect upon the general market and the interests of producers in other beet-growing countries.

The circumstances which have led to the present situation are, briefly, these: From the time when the Prussian Government began the systematic encouragement of the beet-sugar industry down to 1887, the tax on sugar for home consumption was calculated upon the quantity of beets worked up by each separate factory, it being assumed that the quantity of roots required to produce a given weight of sugar would be uniform and invariable. The proportion adopted was 20 units of raw beet root to 1 unit of sugar, which, at the time when the law was enacted, was approximately correct.

But, under the stimulus of the export bounties provided by the same law, the German beet growers and sugar makers worked hard and intelligently to improve and increase their product. By careful selection and cultivation, the beets were so improved that from 12 to 14 tons of roots would yield a ton of sugar. Great advance was also made in the machinery and processes employed in the sugar factories, so that, as a final result, the German Government, which paid nearly 12 cents per cwt. bounty on all sugar exported, and charged a tax of the same amount on all sugar for home consumption that could be made from 20 cwts. of beets, found that the export bounties completely absorbed the revenue derived from the sugar tax.

This tendency of the system had become apparent as early as 1869, and an attempt was made at that time to revise the law, but the sugar-producing interest was powerful enough to resist this effort, and during the sugar season of 1866–67 the Government was paying about $1.17 bounty on each 100 kilograms (220.46 pounds) of sugar exported to foreign countries. This was more than the imperial treasury could well withstand, and the export bounty was reduced to 2.50 marks (59.5 cents) per 100 kilograms—a little more than one-fourth of a cent per pound.

Sugar growing still continued to be the most profitable form of culture for German farmers, the area of cultivation and number of sugar factories continued to increase, loud complaints were heard against a system that favored one class of farmers at the expense of the entire population, and, in 1891, the Imperial Diet reduced the sugar export bounty by half, that is, to 29.7 cents per 100 kilograms, and decreed that such bounty should entirely cease on the 31st of July, 1897, provided that, in the meantime, Austria, France, and other bounty-paying countries should likewise reduce their bounties on exported sugar. Several attempts have been made to reach such an international agreement, but without successful result, and under cover of this failure to secure a general reduction or abolition of bounties, the German Agrarians have rallied and secured the adoption of the present law, which restores the export bounty of 1887 (59.5 cents per 220.46 pounds) and raises the tax on sugar for home consumption from 18 marks ($4.28) to 21 marks ($4.99) per 100 kilograms, or about 2.2 cents per pound. This increased tax will, of course, be added to the retail price of sugar, already very high, and tend to still further retard the increase of sugar consumption in Germany, which is now only 28.8 pounds per capita, against 73.68 pounds per capita in England and 77 pounds in the United States. This low rate of consumption will not appear unnatural when it is remembered how large a percentage of the working classes in Germany must live with the utmost economy, and that sugar, which sells in the United States at 4 and 5 cents per pound, costs at retail 7½ cents per pound in Germany.

From the statistics that were brought out in the recent debate, it appears that the whole system of beet culture and sugar manufacture in Germany has reached a higher standard of scientific perfection than has been attained in any other European country. Every step, from the preparation and fertilization of the land to the smallest detail in the factory process, has been reduced as nearly as possible to exact scientific methods. Comparing the results attained in this country with those in France, the country probably next in rank in respect to the perfection of its beet-sugar industry, the following statistics of the campaign of 1895–96 are presented:

Country.	Factories operated.	Area of beets planted.	Beets harvested.	Percentage of sugar obtained.	Beets required for unit of sugar.
	Number.	*Hectares.*	*Tons.*	*Per cent.*	*Units.*
Germany	397	374,174	11,672,000	13.25	7.25
France	355	200,093	5,411,000	12	8.08

All these statistics were cited to prove that the German sugar producers are safe from all European competition and do not need the protection of an increased export bounty; but nothing could withstand the demand of the Agrarians, and their victory is one of the most significant events in recent German legislation.

Whether Austria and France will follow this lead by increasing their export bounties remains to be seen; but, in any event, the new law of Germany can not fail to increase its future sugar product, and thereby exert a more or less tangible effect upon the general market.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 4, 1896.*

DETAILS OF THE LAW.

The new German sugar law, which was passed by the Reichstag on May 15, 1896, has been approved by the Bundesrath and signed by the Emperor. The main features of the law are the following:

(1) The export bounty has been increased on Class A, raw sugar of at least 90 per cent and refined sugar of from 90 to 98 per cent purity, from 1.25 marks (29.7 cents) to 2.50 marks (59.5 cents) per 100 kilograms (220.46 pounds); Class B, candies and sugars in white, full, hard loaves, blocks, plates, sticks, crystals, and other sugars of at least 99½ per cent purity, from 2 marks (47.6 cents) to 3.55 marks (84.49 cents) per 100 kilograms (220.46 pounds); Class C, all other sugars of at least 98 per cent purity, from 1.65 marks (39.27 cents) to 3 marks (71.40 cents) per 100 kilograms (220.46 pounds).

(2) The home consumption tax has been raised from 18 marks ($4.28) to 20 marks ($4.76) per 100 kilograms (220.46 pounds).

(3) The duty on imported sugars, including honey, natural or artificial, has been raised from 36 marks ($8.57) to 40 marks ($9.52) per 100 kilograms (220.46 pounds).

(4) A tax is levied on the output of sugar factories, as follows: If producing up to 4,000,000 kilograms (8,818,400 pounds) of sugar, 10 pfennigs (2.38 cents) per 100 kilograms (220.46 pounds); if producing from 4,000,000 to 5,000,000 kilograms (8,818,400 to 11,023,000 pounds) of sugar, 12½ pfennigs (2.98 cents); if producing from 5,000,000 to 6,000,000 kilograms (11,023,000 to 13,227,600 pounds) of sugar, 15 pfennigs (3.58 cents), and so on, adding 2½ pfennigs (0.6 cent) per 100 kilograms (220.46 pounds) for every 1,000,000 kilograms (2,204,600 pounds).

(5) The total output of raw sugar in Germany for the campaign year 1896–97 is limited to 1,700,000 tons (1,873,900 short tons), which may be increased 2 per cent by the Bundesrath, to facilitate the erection of new molasses-sugar factories. The limits for the following years will be fixed by the Bundesrath in such a manner that an amount equal to twice the increase in the home consumption will be added to the limit of the preceding year.

(6) The total limit of 1,700,000 tons (1,873,900 short tons) will be apportioned among the various sugar factories according to their output during the last three years and for new factories according to their estimated capacities.

(7) If a factory exceeds its allotted limit, it must pay on such excess a production tax equal to the full export bounty—2.50 marks (59.5 cents) per 100 kilograms (220.46 pounds)—instead of the above-stated rates of 10, 12½, 15, etc., pfennigs (2.38, 2.98, and 3.58 cents).

(8) As regards the home-consumption tax and the duty, this law will go into effect immediately. The other stipulations of the law will become operative on and after August 1, 1896. The new export bounties are to be paid only on sugar produced in the campaign year 1896–97 and later.

This law is the result of the agrarian agitation, which commenced about a year ago. The German sugar industry has lately undergone a serious crisis, principally the result of overproduction, and prices fell below the cost of production. An unexpected relief, however, came through the disturbances in Cuba and the consequent failure of the Cuban crop, so that prices again rose from the lowest level of 8.50 marks ($2.02) in January, 1895, to 12.60 marks ($3) in the beginning of May, 1896. Although, owing to the Cuban troubles, the realization of continued good prices was in view and the sugar industry thus relieved, the Agrarians clamored for the passage of the law, claiming that the relief was only temporary, and that other countries paying large indirect premiums would soon threaten Germany's supremacy on the world's sugar markets.

It will be remembered that Germany formerly taxed the beets 80 pfennigs (19.04 cents) per 100 kilograms (220.46 pounds) and refunded 8.50

marks ($2.02) on every 100 kilograms of raw sugar exported. As it required about 820 kilograms (1,807.78 pounds) of beets to make 100 kilograms of raw sugar, the Government received a tax of 6.56 marks ($1.56). It refunded 8.50 marks ($2.02) on exportation, and therefore paid a covert premium of about 1.94 marks (46 cents) per 100 kilograms of raw sugar. Under this law the beet-sugar industry flourished, but threatened to overstep the limits of a healthy development, and therefore a new law was passed on May 31, 1891, to go into effect August 1, 1892, by which the tax on beets was abolished and a home-consumption tax of 18 marks ($4.28) per 100 kilograms put on raw sugar. A direct export bounty of 1.25 marks (29.7 cents) per 100 kilograms of raw sugar was granted, which was to be reduced to 1 mark (23.8 cents) on August 1, 1895, and discontinued entirely on and after August 1, 1897. It was intended that this law should restrict the overgrowth of the industry, yield more revenue to the Government, and induce other sugar-producing countries to do away with the bounty system also. It failed in these vital points, except in increasing the revenue of the Government.

As the industry was greatly depressed in the beginning of 1895, the intended reduction of the bounty to 1 mark (23.8 cents) appeared unadvisable, and a temporary law was passed on May 24, 1895, continuing the premium of 1.25 marks (29.7 cents) after August 1, 1895. By the new law just passed, the export bounty has been raised to 2.50 marks (59.5 cents), a figure higher than ever before, even if the production tax of 10 or 15 pfennigs (2.38 cents or 3.58 cents) is deducted. It is claimed that this was done not only to protect German sugar growers against other European competitors, but also to force a fight with the latter, with a view to an ultimate abolition of all export bounties.

It is my belief that this latter result will not be attained, because Germany, through physical conditions and long training, has reached a perfection in this industry which is not equalled by any other nation, and, with premiums abolished all around, she would beat all competitors on even terms.

The effects of this law upon the United States will be various. It will furnish cheaper raw sugar to our refiners, and should therefore also reduce the price of the refined article, although German dealers deny that an increase of premium naturally means a reduction in the export price. With a short world's supply, this may be true; but in case of even ordinary crops, Germany will how be able to sell sugar for export just 1.25 marks (29.7 cents) cheaper than before, and be as well off. For instance, if export sugar is now sold at 12 marks ($2.85) free on board Hamburg, under the new law this sugar could be sold at 10.75 marks ($2.55), because, in the former case, the Government pays a bounty of 1.25 marks (29.7 cents), and, in the latter, of 2.50 marks (59.5 cents).

All European countries are speculating on a shortage of the next Cuban crop also, and have considerably increased their beet area. We will, therefore, probably see the Cuban shortage almost covered during the coming campaign, and then, if not before, the increase in the bounty must and will be expressed in the price of export sugar. In fact, since the beginning of May, when the passage of the law seemed certain, the price of sugar commenced to drop, and has now lost almost 1 mark (23.8 cents), thus rendering questionable all the advantages expected from the law.

Ordinarily, we should not object if European countries outbid each other in furnishing us with cheap sugar. We have, however, a raw-sugar industry of our own, and especially an infantile beet-sugar industry, which is seriously affected by anything tending to decrease the value of its products. Sugar has a world's market value, and its price is regulated by the world's supply and demand. If sugar goes down on the world's market through foreign legislative measures, which help the foreign grower, our producers will suffer, because they receive from the refiners only the world's market value, plus the protection contained in our tariff of 40 per cent and one-tenth of a cent per pound on sugar from bounty-paying countries.

The United States revenue is no less interested in the world's market value of sugar, as we levy an ad valorem duty on this article. Germany, being the largest sugar-producing country, greatly influences the world's market price, which, through this new legislation, will eventually decline by about the difference between the old and new bounty, and the United States will thereby suffer a corresponding loss in revenue.

In conclusion, I desire to speak a word for our own beet-sugar industry. If we consider the enormous wealth which has accrued to Germany and all other countries that have introduced and fostered this industry, it is, indeed, to be desired that the United States should be put on such a footing as to be able to produce its own sugar. With our vast territory, varied climates, and soil, we should find a sufficient area adapted to grow all the sugar we consume, if we can sufficiently protect the industry against European competition, unduly aided by direct or indirect bounties.

JULIUS MUTH,
Consul.

MAGDEBURG, *May 30, 1896.*

SAMPLES EXHIBITION OF STUTTGART.

The Stuttgart Export Musterlager, an institution for the exhibition of sample manufactures of the Kingdom of Wurtemburg, has just made its report for the year 1895. This Export Musterlager is practically a permanent exhibition of all articles manufactured here, and is presided over by a director who is able to inform purchasers of prices, etc., and whose duty it is to send agents about the world for the purpose of extending Wurtemberg trade. There are also permanent agents stationed in some foreign cities. To quote from the report:

> The expectation which we expressed in our report for 1894, that the year 1895 would see our trade extended with countries beyond the sea and that we should be able to export a

larger amount of our manufactures, has partially been fulfilled. The demands of South and Central America have risen, and from eastern Asia, where the people are gradually becoming accustomed to the detrimental silver standard, we are receiving larger orders. Our customers from North America were backward in buying; on the other hand, with Australia and South Africa, business was active, so that, for the year, we can report not only an increase in the number of sales, but also in the volume of business. To accomplish this end, we have been constantly employed in sending reports and price lists to all parts of the world, as well as extending invitations to visit our exhibition. While this has made much work, it has brought us a large number of new purchasers.

The samples of manufactures on deposit with us have been extended during the past year, especially in clocks, textile fabrics, and metal ware. The old samples have been constantly renewed and enlarged, so that the visitor to our exhibition finds a full and fresh assortment of goods on hand at all times, and as we are always able to furnish the purchaser with the market prices of the day, he can place his orders at once without further delay or expense.

The best proof of the usefulness of our exhibition is shown by the increase of both verbal and written inquiries that we receive, and the importance attached by exporters and purchasers to the ease and rapidity with which they can receive all particulars of each branch of trade from us is proved in the same way.

Then follows a list of the cities and towns from which orders were received during the past year, and it includes nearly all places of importance in the world. In the United States, I find mentioned New York, Chicago, St. Louis, Cleveland, Indianapolis, Brooklyn, Milwaukee, Detroit, Boston, and San Francisco. The activity of the Stuttgart Export Musterlager and other such societies in Germany should prove to our manufacturers that their trade is being contested at all points, and without equal exertion on their part and a willingness to accommodate purchasers and to study their wants, they will be driven from the field, except in branches where circumstances give the American manufacturer a natural advantage.

ALFRED C. JOHNSON,
Consul.

STUTTGART, *May 26, 1896.*

UNITED STATES TRADE WITH SWITZERLAND.

I have the honor to submit herewith reports covering the several consulates of the United States in Switzerland for the calendar year 1895, viz, Basle, Geneva, Horgen, Berne, St. Gall, and Zurich.

BASLE.

In compliance with your request,* I inclose a statement showing the course of the export business from this consulate during the last year.

Silk goods.—With one remarkable exception, this statement shows quite accurately the condition of business in general during the period mentioned, for the principal manufacturers are also the principal exporters to the United

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* These reports are addressed to the consul-general, at whose request they were prepared by the several consuls.

States. The exception is the great silk-ribbon industry, which, on the whole, has enjoyed a year of very unusual prosperity, while the shipments to the United States have been relatively small. Orders from England, France, and Germany have kept the looms employed to their full capacity, and, at the same time, prices were somewhat higher in consequence of the rise in raw silk. The fashion has been decidedly in favor of this article, and, in Europe, the consumption has been immense. In the United States, sales have been small, and the export, amounting to $938,370, from this district was only a little superior to that of the year of great depression which preceded. The competition of our home industry, no doubt, had much to do with the comparative unimportance of American orders for ribbons during the last year. The tendency to rely on the American manufacturer is seen by the marked decline in the value of ribbon exports from Switzerland since 1890.

Value of ribbons exported.

1890	$1,898,897
1891	1,097,662
1892	1,154,656
1893	1,145,193
1894	800,571
1895	938,370

This shows a loss of almost exactly one-half in the last five years:

Watches and watch materials.—The decline in the exportation of these articles to the United States has been very marked; but, unlike the ribbon business, the watch industry is at present suffering from the general depression to which it has for several years been exposed. Since 1890, the values of watches exported to the United States have been:

1890	$1,525,000
1891	1,590,000
1892	1,370,000
1893	1,012,000
1894	799,000
1895	893,000

The ever-increasing production of watches in the United States has effected, in five years, a diminution of about 50 per cent in the value of exports to that country from Switzerland.

Colors and chemicals.—This branch of production and exportation shows a tendency to hold its own, and even to make some progress. The total value of these products exported to the United States from this district in 1895 was $584,000; in 1890, the amount was $482,000, and it has remained at about the same figure since that time until the past year. Prices of colors are much lower than in the earlier years, when the newly discovered coal-tar products and the colors manufactured from them were veritable gold mines; but the new discoveries and inventions of the highly trained chemists employed by the manufacturers of Basle have so far secured for the business continued prosperity and constant extension. Whether, for the lack of proper training on the part of American chemists, the want of skilled labor, or for some other reason, the United States shows no sign of being able, in the near future, to escape from its dependence upon Switzerland and Germany for its colors and dyes.

Hides and skins.—During last summer the high price of leather in the United States resulted in the export of $346,000 worth of salted hides and skins from Switzerland to that country. There is always a small export business in special kinds of hides, but the movement has never before taken anything like this extension.

Spun waste silk.—This is the only remaining article exported in considerable quantities to the United States from Basle. The declared value of the merchandise tends to increase slightly, though the price has not followed the upward movement of raw silk.

Absinthe.—Of social rather than commercial importance is the fact that the export of absinthe from the Canton of Neufchatel, where it is manufactured, to the United States amounted in 1895 to $40,000. Last year it was $31,000, and amounted in former years to about $25,000. The greater part of it goes to New Orleans and California, presumably for the use of the French population.

GENEVA.

In the consular district of Geneva, which embraces about all of French Switzerland, the year 1895 has been satisfactory, but by no means a brilliant one commercially. At Geneva, which is largely a city of shops, hotels, and schools, the great passage of tourists, particularly American tourists, was naturally a source of considerable profit and the hotels were the principal beneficiaries. It is a notable fact, however, that while there were many more Americans than usual, they did not patronize the shops of Geneva so liberally as has been their custom in the past. Their important purchases here were confined to fur garments and a few high-grade watches. They spent less than usual for musical boxes, jewelry, and cheap watches. It would not be an exaggeration, however, to say that several hundred thousand dollars were left here during the summer by Americans.

In so far as the commercial dealings of French Switzerland with the United States are concerned, the year has been a little better than 1894. During the second and third quarters there was a very marked increase in the exports, but the whole year only shows a total increase of $127,327 over the year previous. The increase was principally in musical boxes, watches, and watch material.

There have been some failures in business, but not more than usual. One of the notable failures, however, was that of a company which manufactured cheap-grade watches here with American machinery. This was the only establishment of its character in Geneva, and some of the old Genevese watchmakers point to its failure as significant of the fact that American appliances for watch making can not be profitably and satisfactorily used in Geneva. Meanwhile, however, it is worthy of note that at Chauxdefonds and other mountain villages of Switzerland similar machinery and appliances are being satisfactorily employed in the manufacture of cheap watches.

The exportations from the United States to French Switzerland are inconsiderable and consist principally of canned meats, fancy groceries, and patent medicines. There is neither an increase nor a falling off in this small trade. The year, however, has witnessed the introduction of a new American staple in the form of liquid fish glue, which has found a more or less ready market in French Switzerland.

The readjustment of the schedule of tariff duties, which heretofore discriminated largely against France, in the commercial relations between France and Switzerland has been a source of great satisfaction to French Switzerland.

HORGEN.

It is with a certain satisfaction that Switzerland can look back on the year 1895. The main sources of the prosperity of this country—agriculture and commerce—show fairly well for that period. The agriculturists were content that the grass crops, although spoiled later on by the continued drought (August to October), were as abundant as in the year 1894, hay being, in some places, even cheaper than straw. Cattle, which had been high in price since 1893, began to grow cheap; also, milk and cheese begin to show a declining tendency. On the other hand, cereals, potatoes, and wine were rising in price on account of their excellent quality. Fruit, however, especially apples (the Swiss article of export), failed. Nevertheless, the above-mentioned results cause the farming season to appear, on the whole, a good one; they have strengthened the purchasing power of the farmers for manufactured articles. Moreover, this favorable fact was accompanied by another of importance—the unparalleled influx of foreign visitors into the Swiss mountains and summer resorts. The next impulse toward a prosperous trade last year, and for the future, was the reopening of former fields of export. The tariff war with France came to a satisfactory end, so that the trade in French and Swiss products will soon regain its former liveliness.

The recovery of commerce in the United States was, of course, the greatest stimulus to the Swiss industries and export business, that field of operations being of the highest importance to the Swiss manufacturers of embroideries, silk fabrics, straw goods, cotton and wool tissues, watch material, etc.

A review of the Swiss business of 1895, lately published, estimates the exportation from Switzerland last year at $130,000,000, against $104,000,000 in 1894, and the importation at $180,000,000, against $165,000,000 in 1894.

With respect to the business of this consular district in the past year, I may say that, with the exception of silk piece goods and condensed milk, the exportation has increased considerably in all lines, as will be seen from the figures following.

Exports from Horgen in 1894 and 1895.

Articles.	1894.	1895.	Increase.	Decrease.
Church goods	$19.860	$34,902	$15,042	
Cheese	18,313	20,028	1,715	
Condensed milk	77,865	63,835		$14.030
Silk:				
Piece goods	1,050,054	924,544		125,510
Spun	23,325	36,191	12,866	
Ribbons		24,577	24,577	
Wine and spirits		1,498	1,498	
Miscellaneous	12,110	14,917	2,807	
Total	1,201,527	1,120,492		81,035

The figures under "miscellaneous" comprise, for the most part, articles of art, antiques, and furniture, bought during the summer season at Lucerne. That the main article of this district—silk goods—shows a decline, is, of course, owing to general uncertainty regarding the silk market, to which the manufacturers here have to submit.

A great many articles of ordinary use and consumption are still unexchanged between the United States and Switzerland. A list of them was elaborately compiled by this office and transmitted to the Department of State under date of October 31, 1894.*

As an explanation of the fact that the exportation of silk goods from Switzerland to the United States is so much inferior in quantity to that of the previous year (1894), I would state that the silk factories had plenty to do to fill orders from England and Germany, etc., even from France, and that, consequently, they saw no reason to press for orders from the United States, where the market was so low at the time.

BERNE.

In reply to your request of the 14th instant, I am sorry to say that I can not give you much information concerning the business and trade of this consular district during the calendar year 1895.

As is well known, agriculture is the chief interest in the Canton of Berne and cheese is the principal article of export. Silk goods (umbrella stuffs) and underwear are not greatly to be taken into consideration. Thanks to the business change in the United States, the exportation of this consular district shows, at the end of the year, a slight increase.

The imports from the United States consist of agricultural implements, conserved meat, some wine, petroleum, pianos, and organs. As the year 1895 proved a success to the farmers, the demand for implements of every kind was great, and even plows and mowing machines in small number found sale here. A few years ago such machines could not be seen in use by any farmer. Direct importation is practiced in only a few cases. Importation is mostly made through houses in London and Hamburg.

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* Printed in COMMERCIAL RELATIONS for 1894 and 1895, vol. 2, p. 432.

ST. GALL.

The city of St. Gall and immediate vicinity is devoted almost exclusively to the business of manufacturing embroideries. During the past few years, various articles (handkerchiefs, curtains, and schiffli lace goods) have assumed great importance. The total value of the embroideries, etc., shipped from this consular district to the United States during the year 1895 was $7,303,013. These figures show an increase in the value of the exportations to the United States of $2,007,876 over the year 1894. They also show an increase over every year since the existence of this office, excepting the year 1890. The year 1890 was the year of the McKinley Tariff Act and the immense exportation by which it was characterized was due to efforts on the part of St. Gāll manufacturers to get as many goods as possible into the United States before the taking effect of the increased duty. The very heavy exportation (in value) of the year 1895 is due not altogether to large shipments, but to the fact of the prevalence here of higher stitch rates. Still, the quantity of goods sent has been very great. In spite of business embarrassments in the United States, this heavy exportation has been maintained, and there seems to be every prospect that it will be maintained during the year 1896. The only thing likely to cause serious disturbance in the embroidery trade would be further uncertainty regarding the customs duties.

ZURICH.

In view of the absence in the United States, on leave, of Consul Eugene Germain, of Zurich, no formal report from the Zurich district has been solicited by me. I am, however, able to insert below a few letters received at the Zurich consulate during the year 1895, which speak for themselves.* Through the efforts of Mr. Germain, a decided opening for American goods has been established in the Zurich market. Direct importation into Switzerland of goods from the United States has heretofore been very slight. Through Mr. Germain's efforts, direct importation is now being made of horses, lumber, leather belting for machinery, top-roller desks, paper, carpets, wall paper, seeds, dried fruits, honey, machinery, wood-working machinery, tools of all descriptions, unfinished furniture, etc.

I wish to express to Mr. Gifford, consul at Basle; Mr. Ridgely, consul at Geneva; Mr. Streuli, vice-consul at Horgen; and Mr. Hinnen, vice-consu at Berne, my appreciation of their prompt compliance with my request fo the submission of the above reports.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *January 20, 1896.*

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* The letters referred to are from a firearms company of Connecticut, a paper-manufacturing company of New York, and a machine-manufacturing company of Ohio, thanking Consul Germain for his efforts toward introducing their goods into Switzerland.

AMERICAN HORSES IN IRELAND.

For several months past, my attention has been attracted to the large influx of horses for this market from the United States and Canada, the majority coming from the latter country. The stock is usually bought up with avidity and fair prices are received.

They usually arrive via Liverpool or Glasgow in consignments of from 20 to 60 head by steamer from New York or Montreal, principally by the latter route. After arriving in Belfast they are turned over to a horse bazaar to be sold by auction. The auction is well advertised several days in advance of the sale, and the bidders, consisting of country and town folk, are quite numerous.

At a recent sale at the Messrs. Robson's Royal Victoria Horse Bazaar, there were offered twenty-three horses consisting of matched pairs, broughams, trappers, cobs and ponies, and two trotters. The lot was consigned to Messrs. Robson by a Chicago firm and arrived per steamship *Pomeranian* at Glasgow from Montreal, and from thence direct to Belfast. The attendance was exceptionally large and bidding brisk, although no unusual prices were offered. Appended is a complete list of the consignment, all of which, with one exception, were sold.

No.	Description.	Age.	Height.		Price received.
		Years.	*Hands.*	*In.*	
1	Dark-bay gelding	6	15	3	$122.63
2	Bay gelding	6	16	1	117.52
3	do	9	16	0	122.63
4	Brown gelding	5	16	0	132.85
5	do	5	16	0	127.73
6	Dark-bay gelding	6	15	2	132.85
7	Bay gelding	6	15	3	132.85
8	do	7	15	3	137.95
9	do	6	16	1	132.85
10	Brown gelding	6	16	1	127.73
11	Bay gelding	6	16	0	153.29
12	Dark-bay gelding	5	16	0	132.85
13	Liver-chestnut gelding	6	16	0	(*)
14	Chestnut gelding	6	16	0	214.85
15	Bay trotting gelding	6	15	3	155.96
16	Bay gelding	6	16	0	137.05
17	Dark-bay gelding	6	15	3	132.85
18	Brown gelding	6	15	3	97.08
19	Bay gelding	5	15	3	117.52
20	do	5	15	3	180.21
21	Brown mare	5	15	3	155.96
22	Bay gelding	5	15	3	127.73
23	do	5	15	3	107.06

* Not sold.

All property sold at public auction is subject to 5 per cent auction fees, payable by the purchaser.

The consensus of opinion was that the trotters brought very good prices, especially No. 14, whose marking and general appearance were good. No. 15 lacked the uniformity in marking that charcterized No. 14, but through his trotting qualities he was knocked down at a satisfactory price.

Bay, light-brown, or chestnut geldings of from 5 to 7 years and about 16 hands can usually find purchasers in this market at the prices quoted, for the above are favorite colors among local buyers. Marking is also essential, and unless an animal is gifted with a pair of white feet or lacks patches or spots on his body, his chances for a good price are poor. No. 18 was, in my mind, as good a horse as the one which preceded him, but, unfortunately, was poorly marked and brought $35 less.

I learn from the Messrs. Robson that the entire cost for transportation, feeding, and care for each animal from Chicago to Belfast is $37.

MALCOLM T. BRICE,
Vice and Deputy Consul.

BELFAST, *June 9, 1896.*

PRICES OF AGRICULTURAL PRODUCE IN IRELAND.

The Irish land commissioners have made a return to the House of Commons showing the average prices of agricultural products in Ireland for each year from 1881 to 1895, inclusive. The prices relate to agricultural products of Irish origin only. The prices from 1881 to 1886, inclusive, are from the returns of prices collected by the Irish land commission in 1887; the prices from 1887 to 1895, inclusive, are compiled from the weekly return of prices supplied to the Irish land commissioners by the inland revenue officers at eight of the principal market towns in Ireland. The Farmers' Gazette, published at Dublin, commenting on these prices, compares them with the returns given in Purdon's Almanack and reaches the conclusion, from this basis of comparison, that the returns are very accurate. In almost every instance, Purdon's returns are higher than those of the land commissioners, but Purdon's returns are made up from the Dublin markets alone, where prices are higher than in other portions of Ireland.

The figures are remarkable as indicating the great fall in agricultural prices in 1895 as compared with 1881. Potatoes are the only product which shows an increase, and that by only 2 cents per cwt. of 112 pounds. Wheat has dropped from $2.29 to $1.39 per cwt.; oats, from $1.53½ to $1.16½ per cwt.; barley, from $1.80½ to $1.63 per cwt.; hay, from 61½ cents to 58 cents per cwt.; butter, from $26.35 to $21.27 per cwt.; pork, from $12.71 to $9.47 per cwt.; flax, from $1.68 to $1.33 per 14 pounds; wool, from 22 cents to 18 cents per pound; eggs, from $1.76 to $1.70 per 120; beef, from $15.58½ to $13.29 per cwt.; mutton, from $17.25 to $16.04 per cwt. Yearling cattle declined from $30.29 per head to $29.34; two-year-olds, from $47.93 to $42.39; and lambs, from $6.47 to $6.06 per head.

The figures indicate that in the great cereals, the tendency toward decline in prices has been steady in wheat and oats since 1881, and in barley, since 1882. The same may be said of flax and wool. In beef, mutton, cattle, and lambs, the maximum price seems to have been reached in 1883, since which time, the tendency has been for a decline in prices, while in butter and pork, the decline seems to have been steady since 1881. I speak in the above of general tendencies only, as the figures will show various fluctuations from year to year.

NEWTON B. ASHBY,
Consul.

DUBLIN, *May 26, 1896.*

AMERICAN MACHINERY IN IRELAND.

The Royal Dublin Agricultural Society held its spring show in the society's grounds at Ballsbridge, Dublin, in April. The shows of this society partake in their nature of a State fair, and are open to competitors from all parts of the United Kingdom. The spring show is especially devoted to agriculture, specialty being made of breeding-stock exhibits, farm machinery and implements, and seeds.

The exhibits in the sections devoted to farm machinery, implements, and tools were very numerous and ranged through an almost complete list of all kinds finding a market in Ireland. I was especially interested in noting the machinery of American make and comparing it with its competitors of Irish and English manufacture. As a rule, the English and Irish manufactures are much heavier in make and more clumsy in appearance than the same sorts of American machinery. I was told by some of the exhibitors that this was due to the fact that the iron and steel of American manufacture were tougher than that of English, and that a bar of American steel would stand a much heavier strain than a bar of English steel of the same weight and thickness. Whether such statements are true, I have no means of knowing; but, although it may be true, I am of the opinion that the lighter make of American machinery discourages its sale in this country, and that, should our American manufacturers study the prejudices of farmers in Ireland and follow the more clumsy fashion of the homemade machinery, they would improve their sales thereby. In harvesters, there is also required a greater width of canvas and of binder platform than is common in the American manufacture. This is required both because of the length of straw and the habit of taking as much of the straw as possible from the field.

Thomas McKenzie & Son, of 211 Great Brunswick street, Dublin, exhibited, in American machinery, the Osborn mower, the Gem and Haliday windmills and force pumps, Leffel's double turbines, the Empire corn drill, rotary-disc pulverizer, the Ajax horse hoe, the Mudgett haymaker, the Osborn steel rake, the Champion hay press for both steam and horse power, portable scales, winnower, lawn mowers, the Remington typewriter, and the Champion incubator; Messrs. A. & J. Moin, of 11 Leinster street, Dublin, exhibited the Deering harvesters, mowers, and hay tools; Messrs. Lancaster & Co., of 11 Southwark street, London, exhibited McCormick harvesting and haymaking machinery of various styles and for various purposes; Messrs. Scott & Co., of Lower Abbey street, Dublin, exhibited the harvesting machinery of Adriance, Platt & Co., of New York; Messrs. Blackstone & Co., of Stamford, England, exhibited harvesting and haymaking machinery and tools both of their own and of American make; Messrs. Kennin & Sons, of Fishamble street, Dublin, exhibited lawn mowers of American manufacture and also American axes, shovels, etc.

The above is only a partial list of the more important machinery exhibited. But it serves to indicate the important place American machinery is gaining for itself, and I believe that in harvesting machinery and hay tools, American manufactures are steadily growing in favor. I can not emphasize too strongly the importance of American manufacturers of agricultural machinery and tools being represented at the principal agricultural shows. It would also, undoubtedly, be to their advantage could they send a representative to visit the various exhibits of agricultural machinery, to study their manufactures in comparison with their foreign competitors, so as to be able to suggest changes for the foreign trade which would help to overcome prejudices in the matter of form.

NEWTON B. ASHBY,
Consul.

DUBLIN, *May 28, 1896.*

FRENCH VS. UNITED STATES TRADE IN WEST AFRICA.

I have the honor to bring to the notice of the Department the fact that Timboo, the principal place in the Fouta-Djallon country, a district larger, probably, than the State of Pennsylvania, and said to be quite fertile, has been taken possession of by French troops.

This is important to Americans, in view of the fact that the commerce of the Fouta-Djallon country, which formerly found a principal outlet through the English settlement at Sierra Leone, will now probably be diverted to the French ports on the coast immediately north of Sierra Leone, and will not be practicable to anything like the extent it has been for foreigners to engage in. The produce of the Fouta-Djallon region has heretofore largely consisted of valuable hides, which, in exchange for articles of American manufacture, have been shipped from Sierra Leone by sail direct to Boston, Mass., thus always affording the nucleus for a more extended commerce. But in the French shipping ports there is always to be met the discriminating duty of 7 per cent against all goods not of French manufacture, which must soon have the effect of sending all the produce of this newly acquired district to France, in payment for goods of French manufacture. There seems to be no hope that Americans, with a discriminating duty of 7 per cent against their goods, can look for a serious commercial footing in very extensive districts of the African continent.

Space forbids that I shall here discuss many of the causes which have actually decreased American commerce in parts of Africa which have lately attained to a great development, nor could I well do so without trenching on grounds which have been supposed to lie beyond consular jurisdiction. But every mail this way makes it evident that the needs of American manufacturers for wider markets are great. Manufactories appear to have been stimulated into existence beyond the capacity of our own country steadily to support them; and the question, How and where are the surplus goods to be disposed of so that the people at present engaged in manufacturing may not be periodically thrown out of employment, and become, in many instances, a burden to the public, seems to be a growing one. The European nations, having possessed themselves of all the coasts of Africa, now claim to regulate the trade of the whole continent, not only at the points where they have civil governments established, but with the natives of the far interior, who, as yet, scarcely recognize their pretensions. The process has begun of fortifying perhaps the whole continent against us by protective tariffs, for if one nation can even now do it with effect, the rest will, in time, have to do it in order to equalize things between them.

Manchester is already beginning to loosen its hold on this colony, because of the 7 per cent duty, but so long as England herself has immense portions of the continent she can easily keep even with her enterprising rival, and has but little cause for alarm. It is American trade only which is doomed to suffer, and the question seems to be, How can the suffering best be prevented?

There is another view to be taken of this matter, which appears to deserve attention. Many of what are called "raw materials" are now imported by us free of duty for the benefit of manufacturers, but it would seem that unless our manufacturers can put themselves into a position to afford large prices in gold they can not in future be expected to benefit much by this concession in their favor. Hides and india rubber are raw materials produced in this country, and both were formerly, to some extent, exported direct to America in payment for goods manufactured from the same materials, but they are now exported in French vessels direct to France, partly in payment for goods manufactured there of the same materials. Labor is cheaper in France than it has been in America, and with the extended outlets which French manufacturers now have, it is evident that when raw materials which have been cheaply purchased by their own manufactured goods are once in their hands they are not going to part with them without securing the largest profit possible, either from fabrics of their own manufacture or by selling them to those who are willing to pay fancy prices in gold. Formerly, American boots and shoes were exported this way and were liked, but the new conditions have effectually put a stop to all such shipments.

PETER STRICKLAND,
Consul.

GORÉE DAKAR, *May 9, 1896.*

NEW TARIFF OF BRITISH CENTRAL AFRICA.

I transmit herewith a copy of the new customs tariff of British Central Africa.

W. STANLEY HOLLIS,
Consul.

MOZAMBIQUE, *April 24, 1896.*

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SCHEDULE OF CUSTOMS DUTIES LEVIABLE IN BRITISH CENTRAL AFRICA.

Import duties.

(1) A duty of 5 per cent ad valorem on all goods except guns, gunpowder and ammunition (which are subject to a duty of 10 per cent), and machinery, agricultural implements, and materials for making railways, tramways, or roads, materials to be used as coffee manures (as defined below), vehicles (as defined below), and live stock (as defined below), which are allowed to be imported free of duty.

The substances defined as coffee manures, which are allowed to be imported free of duty, are the following: Sulphate of ammonia, sulphate of potash, nitrate of soda, nitrate of potash (saltpeter), carbonate of potash, guano, dissolved guanos, fish guanos, fray bentos guano, sombrero, bone ash, dissolved bones, burnt bones, raw and bruised bones, phosphatic manures (embracing the different forms in which this mineral may be obtained as a marketable commodity, such as superphosphates), coprolites, gypsum, dried blood, horn dust, shoddy, poonac, sulphuric acid, insecticides, with appliances for using the same.

Vehicles which are allowed to be imported free of duty include any wheeled carriages or wheels or other parts of such carriages.

Live stock which is allowed to be imported free of duty includes horses, mules, asses, oxen, sheep, goats, swine, and poultry.

(2) A duty of 10 per cent ad valorem on guns, gunpowder, and ammunition.

(3) The following duties on alcohol or liquids containing alcohol: On wine, ale, porter, and beer of every sort, per case of 1 dozen old wine bottles or part thereof, 5 per cent ad valorem; on brandy, whisky, rum, gin, liqueurs, and miscellaneous spirits or strong waters not being sweetened or mixed with any article so that the degree of strength can not be ascertained by Sykes's hydrometer, where the degree of strength does not exceed proof, for each imperial gallon or part thereof, 12s., and for every degree or part of a degree overproof, an additional duty, per imperial gallon or part thereof, of 1s.; on brandy, whisky, gin, rum, and miscellaneous spirits or strong waters, these being sweetened or so mixed that the degree of strength can not be ascertained, per each imperial gallon or part thereof, 12s.

Export duties.

(4) Two shillings per pound on ivory (elephant) for entire tusks not exceeding 15 pounds in weight. (Pieces of ivory or tusks weighing, when entire, over 15 pounds, which have been cut up to reduce them to weights below 15 pounds will be charged at the rate of 9d. per pound.)

(5) Nine pence per pound on ivory (elephant) for entire tusks over 15 pounds in weight.

(6) One penny per pound on hippopotamus teeth and rhinoceros horns.

(7) One shilling an ounce on gold.

JAPANESE LAWS IN FORMOSA.

I have the honor to inclose herewith a clipping from the Japan Mail, of the 29th ultimo, giving copies of the laws and ordinances relating to the government of Formosa.

JOSEPH R. HEROD,
Secretary of Legation.

TOKYO, *May 2, 1896.*

[From the Japan Daily Mail, Yokohama, April 29, 1896.]

LAW AND ORDINANCES RELATING TO FORMOSA.

The following law and ordinances have been issued over the great seal and the counter-signatures of Count Kuroda, president of the privy council and acting Premier, and other ministers.

LAW NO. 63.—ENFORCEMENT OF DECREES IN FORMOSA.

ARTICLE I. The governor-general of Formosa may proclaim in the districts within his jurisdiction orders that possess the same validity as law.

ART. II. For all orders specified in the preceding article the approbation of the council of the governor-general's office must be obtained and the sanction of His Imperial Majesty must next be applied for through the colonization department. The organization of the council of the governor-general's office will be specially determined by imperial ordinance.

ART. III. In cases of emergency, the governor-general may proclaim an order without immediately applying for the sanction specified in Article I of this law.

ART. IV. When an emergency order has been issued, the sanction of His Imperial Majesty must be applied for as soon after its issue as possible, and, at the same time, notice of the issue of such order must be conveyed to the council. Should the imperial sanction not be given to such order, the governor general must publicly notify the fact that the order is thenceforth null and void.

ART. V. Of the laws now in force or that may be proclaimed hereafter, those whose complete or partial enforcement only in Formosa is deemed essential shall be determined by imperial ordinance.

ART. VI. The present law shall be null and void on the expiration of three years, computed from the day of its enforcement.

IMPERIAL ORDINANCE NO. 88.—REGULATIONS OF THE GOVERNOR-GENERAL'S OFFICE.

ARTICLE I. A governor-general shall administer Formosa and the Pescadores.

ART. II. The governor general shall be of "shinnin" rank, and be nominated from among field marshals or admirals or lieutenant-generals or vice-admirals.

ART. III. The governor-general shall, within the limits of his delegated powers, control the land and marine forces and shall superintend the various administrative affairs of the islands, subject to the supervision of the Minister of State for Colonial Affairs.

ART. IV. The governor-general may, in virtue of his specially delegated authority, issue notifications in the name of the governor general's office, and may enforce, upon any violation of such notification, a fine not exceeding 25 yen, or, in lieu thereof, confinement for a period not exceeding twenty five days.

ART. V. The governor-general shall deal with matters relating to the defenses of the districts under his jurisdiction.

ART. VI. The governor-general may, whenever it is deemed necessary for maintaining good order in the districts under his jurisdiction, employ armed force. In the event of such proceeding, he must report at once to the Ministers of State for War, the Navy, and Colonial Affairs and also the chief of the central staff and the chief of the board of command of the navy the nature of the circumstances requiring such imperative measures.

ART. VII. The governor-general may, whenever he deems it necessary, cause the commander of the troops quartered in a special district, or a subordinate officer in the absence of a commander in chief, to undertake the duties of administering the affairs of such district.

ART. VIII. The governor-general shall supervise the civil and military functionaries under his charge. The appointment or dismissal of officials of "sonin" rank can only be decided after the sanction of His Imperial Majesty has been obtained through the Department of Colonization and of the president of the cabinet, but those of "hannin" rank may be appointed or dismissed at his own discretion.

ART. IX. Should the governor-general deem an order issued or a step taken by a local governor under his control to be at variance with legal provisions, or is prejudicial to the public interest, or oversteps the bounds of his powers, he may suspend or cancel such order or step.

ART. X. The governor-general may recommend to the Emperor the grant of official title or decoration upon a civil official under his control through the Minister for Colonization and the president of the cabinet.

ART. XI. The governor-general shall accord disciplinary punishment to any civil official under his control, but the disciplinary punishment of an official of "chokunin" rank or the dismissal of an official of "sonin" rank must first be submitted for the approval of the Emperor through the Minister for Colonization and the president of the cabinet; disciplinary punishment connected with officials of lower rank may be dealt with according to his own discretion.

ART. XII. In case the governor-general is incapacitated through any unforeseen circumstance from discharging his official duties, the chief of the civil administration bureau or the chief of the military affairs bureau who happens to be next in official rank is to act in his stead.

ART. XIII. The governor-general's cabinet shall be established in the governor-general's office, the cabinet to be organized as follows: Two aids-de-camp (one military and one naval) and two private secretaries (of sonin rank) specially appointed. Matters and documents pertaining to official secrets are to be dealt with by the members of the cabinet, in accordance with the orders of the governor-general.

ART. XIV. A bureau of civil affairs and a bureau of military affairs shall also be established in the governor-general's office.

ART. XV. The present ordinance shall come into force on and after April 1, 1896.

IMPERIAL ORDINANCE NO. 89.—THE COUNCIL IN THE GOVERNOR-GENERAL'S OFFICE.

ARTICLE I. A council shall be established in the governor-general's office, composed as follows: The governor-general, chief of the civil affairs bureau, chief of the military affairs bureau, sectional chiefs of the civil affairs bureau, sectional chiefs of the military affairs bureau, councilors of the civil affairs bureau. When deemed necessary, the governor-general may temporarily cause other civil or military officers not mentioned above to take part in any deliberations of the council.

ART. II. Besides rendering decisions upon any orders specified in law No. 63, the council shall, in accordance with the request of the governor-general, render decisions on the following matters: (1) Estimates and settled accounts, (2) schemes relating to civil works of importance, (3) a petition presented by a subject on an important matter; and also any other matters besides the above on which the council is consulted by the governor-general.

ART. III. The governor-general shall preside over the council, and when, through any unavoidable circumstances, he is incapacitated from undertaking this duty, his place shall be filled by the next highest in official rank.

ART. IV. Any bill to be submitted to the council shall be forwarded in the name of the governor-general.

ART. V. Deliberations of the council can not be held unless a quorum of over two-thirds of the whole council is present.

ART. VI. The majority shall decide any subject brought to a vote, the governor to have a casting vote.

ART. VII. The governor-general may amend or withdraw any bill forwarded for discussion.

ART. VIII. In case a decision of the council does not meet with the approval of the governor-general, he may, by stating his reasons, request a reconsideration of the matter.

ART. IX. One manager and certain clerks must be appointed in the council, the former nominated from among the councilors of the civil affairs bureau and the latter from the clerks of the same bureau.

ART. X. The manager is to arrange general affairs subject to the direction of the president and the clerks to discharge clerical affairs in obedience to the orders of their superiors.

IMPERIAL ORDINANCE NO. 90.—THE ORGANIZATION OF THE CIVIL AFFAIRS BUREAU.

ARTICLE I. The civil affairs bureau in the governor-general's office shall, subject to the control of the governor-general, deal with administrative and judicial affairs.

ART. II. The following posts are created in the bureau: Chief, one (chokunin rank); commissioners, twenty-five (chokunin or sonin rank); councilors, three (sonin rank); experts, fourteen (sonin rank); clerks, three hundred and twelve (hannin rank); assistant experts, forty (hannin rank); interpreters, forty-two (hannin rank). * * *

ART. X. The bureau is divided into seven sections, as follows: Several affairs, domestic affairs, industrial affairs, financial, judicial, educational, and communications.

THE SUGAR INDUSTRY OF FORMOSA.

I have the honor to forward a printed copy, taken from the Japan Daily Mail of the 21st of April, 1896, of an article on "The sugar industry in Formosa." This article was prepared by Mr. James W. Davidson, an American, who was with the Japanese army of occupation and spent some months in Formosa. Since this is one of the very few reports on Formosa which we know have been prepared by an intelligent and actual observer, I consider it valuable.

N. W. McIVOR,
Consul-General.

KANAGAWA, *April 25, 1896.*

THE SUGAR INDUSTRY IN FORMOSA.

THE GROWING OF CANE AND MANUFACTURE OF SUGAR.

The cultivation of the sugar cane is entirely confined to the southern and western central parts of Formosa. The district is divided into two divisions, where the two tradal varieties, viz, "Takow" and "Taiwanfu" sugars, are produced. The land generally in the south is held by the cultivators under métayer tenure. In the northern, or Taiwanfu, division, the people seem to be more independent, and therefore well-to-do, than those in the more southern, or Takow district; at least, that is true of the cane planters, who, in the latter district, have for a long time allowed themselves to drift into a deplorable and apparently irremediable state of debt to a few capitalists. Indeed, as matters now stand, they are little better than serfs working for bare subsistence, and, being extremely illiterate, are incapable of understanding, much less keeping, accounts, and thus have fallen a ready prey to the money lenders, who may be said to command the whole of the Takow crop. During the past eight or ten years the chief usurer has become so powerful that he may be said to have established a "corner" for himself in Takow sugar, regulating the planting, and, therefore, the total crop, to suit his financial maneuvers on the ultimate market (Japan). By a system of compound and usurious interest, ranging from 18 to 36 per cent, debts beginning at from $50 to $100 very rapidly spring up to amounts utterly beyond the capacity of the debtors to discharge, and at last they become desperate and careless. In the Taiwanfu district, however, this evil has not assumed the same magnitude, and, therefore, competition among the growers having freer scope, brings about a more natural ratio between price and actual value of product. While deploring the system prevailing in the Takow district, one can not help admiring the wonderful organization and administrative ability displayed in watching over the unfortunate victims and their fields. A complete service of field bailiffs is established, who, at regular intervals, estimate and bring in reports to their chief. As soon as the new cane begins to show above ground, advances are made on the estimated value of the prospective crop, a wide margin being allowed for possible loss or deterioration from floods, wind, or other risks. After the rainy season, another valuation is made and further advances given; when the cane is cut and its sugar extracted, the final installments are paid. It need scarcely be said that these doles are as small as they can possibly be made compatible with the hand-to-mouth existence of the recipients. These latter declare that even in the best years the capitalist rarely pays more than $1 to $1.20 a picul. Of course, the amount thus credited makes but a small hole in the debt, which is increased not only by the accumulating interest, but also by the unfair manipulation and charges which are invariably added. It may be remarked, however, that the lenders, for obvious reasons, do not look for the payment of the debt, the greater part of which is fictitious and the result of gross imposition, but which, nevertheless, is a perpetual source of most profitable returns on what is only a very small outlay of actual capital. To illustrate this, it may be mentioned that when these capitalists dispose, at the port, of the sugar thus got, they would never dream of accepting less than something between $2.50 and $3, which, even allowing for the cost of transport from the mills, shows an immediate profit of at least 100 per cent. The soil in the different districts, and, indeed, in various parts of the same divisions, differs considerably in its sugar-producing properties. Thus, although no more care in cultivation of the cane or treatment of the juice is shown in the Takow district than in the Taiwanfu department, the products of the former are much richer in crystallizable sugar, and consequently, grade for grade, of higher commercial value.

The species of plant grown is that known as the "Chinese cane," which locally the growers distinguish into three varieties based on the thickness and color of the skin. It has been stated that the sorghum, or sugar grass, is cultivated in Formosa, but, so far as I know, that is not the case in the southern part of the island at least. Through negligence in cultivation, the cane here dwindles to a very small size, the joints only averaging from 1 to 1½ inches in circumference, and little or no attention seems to be devoted to the plant beyond putting it in the ground. Even for irrigation, which, during the periods of small rainfall or drought, would be of material advantage, no means whatever are provided. Plantings are made from cuttings about once in three years. These are first soaked in water for about twenty days, until the buds begin to sprout. They are then placed obliquely in the ground, more or less in a line, with one end protruding, the furrow for their reception being scraped with the hands. A little manure is placed over them, but beyond this, with perhaps an exceptional and occasional weeding by some of the more careful growers, nothing further is done. The crops for the intervening two years are raised from "ratoons," and at the end of the third year the roots are dug out and burned. Cane crushing is effected by stone mills, worked by two, and sometimes three, buffaloes. These mills are generally set up and owned in the Takow district by agents of the usurers. A certain number, usually twelve, of the producers share a right to, or rather are expected to, bring their cane to this mill, to which is also attached the boiling house. Each participant must provide two buffaloes if he wishes only to be charged 7 per cent of the produce from his cane as the cost of manufacture. In the more southern parts of the island, the buffaloes are supplied by the mills, when the unhappy growers are mulcted from 30 to 40 per cent of their product. These mills are erected at the beginning of each season, usually early in December, and are dismantled at its conclusion, the stones being buried in the earth for their preservation. The animals work in spells of from an hour to an hour and a half, according to the time taken to extract, say, about 2 piculs of juice. There are, as a rule, four boiler men and four attendants on the mill, working in day and night shifts, besides "cow men."

The following is a description of the mills in use in Formosa, which shows how very far short they come of fulfilling even ordinary requirements, a fact that leads to much loss of product: The granite rollers, 25 inches in diameter by 30 inches in height, are placed in opposition. At the top of each roller a row of depressions is cut, into which are fitted hardwood cogs. By means of the latter, the motion is imparted to the right-hand stone from the left-hand one. Wooden spindles are let into the center of each stone at top and bottom, respectively. By the lower of these the stones fit into a granite, or sometimes wooden, bedplate, while the top ones project through a transverse wooden binding beam, the left-hand upper spindles being prolonged so as to afford attachment for the lever, at the further end of which the buffaloes are yoked. The opposition of the rollers to each other is secured and judged according to the ability of the millwright; and as the wooden binding beam is constantly wearing, and thus the distance between the rollers always varying, the pressure on the cane, only roughly set at first, is most irregular in its application all through. To modify the effects of this as far as possible, the natives pass this cane thrice through the mill, but, as the following experiments show, the results obtained are by no means perfect. Then, again, the frequent stoppages for readjustment and repairing the mills are also a constant trouble and drawback. The wooden cogs have also frequently to be replaced, as, indeed, is the case with the other wooden parts of the machine, causing the mill owner a never-ceasing outlay. The minimum first cost of one of these mills, not counting the house, is $150, and besides that, at the commencement of each season, renewing the wooden fittings, erecting the shed, and setting up the mill amounts to at least $100; and then there is the ever-recurring cost of repairs during the whole time the mill is running. By careful experiments made alongside several native mills with those of foreign manufacture, it was found that for every 100 pounds of cane thrice pressed by the Chinese mill, 60 pounds weight of juice was extracted from the cane, as against 68 pounds got by passage once through the iron mills, showing a gain in favor of the foreign mill of 18 per cent per weight of cane. The native boiler men all admitted that the juice got either directly from the cane by the foreign mill or from the bagasse that they discharged from their own mill was as good, if not better, than that obtained by their own methods. Calculating out what this means on even the limited crop from the Takow districts to which the userers have of late years reduced it, say 300,000 piculs, it being further remembered that this only comprehends that which is shipped in foreign bottoms, we find that 37,600,000 pounds of juice are burnt up every year in the bagasse. This would give 108,000 piculs of sugar if manufactured, which, at only $2.50 per picul, shows a total loss of money consequent on the imperfections of their mills of $270,000, a sum which would leave an ample margin of profit if every cane grower purchased a foreign machine, got his cane crushed in the ordinary way by the Chinese mills, merely contenting himself with using his machine for crushing the bagasse as it came out from the native establishment. In other words, the cost of their fuel is very nearly equal to one-third of the total amount realized on the whole crop of 300,000 piculs. To try and improve this condition among the people, Dr. Myers, an authority on the industry, drew up a simple "Primer" on the cultivation of cane and manufacture of raw sugar, which was translated into Chinese by the acting commissioner of customs; but even those whose interests would seem most likely to prompt them to study this question, and whose comparative educational advantages easily enable them to read what had been written (*i. e.*, the dominating money lenders and their lieutenants, the mill owners), could not be got to take much interest in the subject, and, indeed, seemed only to fear lest any innovations, either from instruction or mechanical aids, might interfere with the arrangements, which, they said, were, "as far as they were concerned, sufficiently remunerative to themselves." The surroundings of these mills are dirty in the extreme, and the juice flows from the rollers by means of a leaky bamboo pipe, led under a filthy buffalo walk, until it arrives at the first pan, or what ought to be the clarifying receptacle. In the Takow districts, the cane tops are ignited, and thus burnt off while the plants are still standing. More or less charred material thus adheres to the cans, discoloring the exposed juice until it is literally as black as ink. There is here also a complete absence of any attempt at cleanliness; the filthiest hands are dipped and even washed in the juice; and while large pieces of trash, saturated with the fluid they have absorbed, are roughly taken out and thrown away, no efforts are made to get rid of the smaller fragments ("cush-cush"). In the clarification of juice, beyond stating that lime is added according to the discretion of the boiler men, exercised in very rough-and-ready fashion, there is little to be further described. The unslaked lime used is kept in the corner of a very dirty room, constantly exposed to the atmosphere, and is full of dirt and other extraneous matter. There is no attempt at filtration, as the juice is ladled from the receiving pan into the first "tache." The boiling battery consists, as a rule, of from four to five taches, and under each one is a furnace. As the boiler man, by some rule which it seems impossible to discover, thinks a sufficient amount of concentration has been arrived at in one tache, he ladles the contents into another, and so on. It is quite possible at any given time that the fires beneath the lower pans are burning less briskly than those under the upper ones; and although the liquor thrown into the first pans shows a lower percentage of "invert," by the time it has reached the "striking tache," this has probably been trebled. In the northern districts, where special efforts are made to "grain large," the result is accompanied by a very great loss from inversion. The object of this latter attempt is to get "lao-tsai," the raw material from which so-called "white" is produced by means of claying.

With reference to the other brown varieties of sugar made in Formosa, it has not been discovered that other than mere chance, perhaps regulated to some slight extent by rough experience, determined either the grain of the product or the amount of crystallization which happens to survive the crude treatment the liquor has been subjected to all through. Clayed, or white, sugar, as before explained, is got from "lao-tsai." Each jar holds from 133½ to 200 pounds. The clay or mud placed at the top of the jars is that scraped from the bottom of sewers, canals, or ponds; and the natives about Taiwanfu assert that that got from the bottom of the canal, just outside the city walls, which is, in fact, nothing but a gigantic sewer, produces sugar with the best taste. This may be due to the fact that the canal, being connected with the sea, always contains more or less salt water, which latter may impart the improved taste.

The following are the proportions of different grades of white sugar got from 1 picul of "lao-tsai." The top layer of all, equal in amount to 5 per cent of the whole, is known as No. 1 white, the second layer (15 per cent) is known as No. 2 white, the third layer (25 per cent) is known as No. 3 white, the fourth layer (25 per cent) is known as No. 4 white, while 30 per cent of molasses drains out. The last is reboiled, and about 60 per cent of sugar procured from it. This is known as "cha-soa," and is in some demand in North China.

From the foregoing necessarily brief description of the methods used in Formosa for producing sugar and the quality of the product obtained, it is hoped that some idea may be conveyed as to the extremely backward condition of the industry, and it must distinctly be understood that all here stated only refers, and only can refer, to Formosa as it has been. Now that the Japanese have come as rulers, no doubt they will, by introducing machinery and improving methods both of cultivation and manufacture, very soon set up a different condition of affairs. One great change that is sure to be made is with regard to the usurers and their oppression. As most of their power for evil and tyranny was due to the aid they could always purchase from the corrupt officials around them, and as this support has of course gone now, it is not unlikely that the extortioners will find it best to disappear also.

A spirit ("samshu") is very roughly distilled from molasses that can not be further utilized at the boiling houses; but the distillation is carried on indiscriminately over the country by any person who cares to buy the molasses. The skimmings at the mills and other saccharine refuse are generally given to pigs, and the idea of using them for the ground seems to be unthought of. The general waste from this neglect alone is as great as it is deplorable.

MARKET RELATIONS WITH THE FORMOSAN SUGAR TRADE.

As before stated, there are two sugar districts in South Formosa, namely, Takow, producing in the best year 530,000 piculs, and the Taiwanfu division, producing 310,000 piculs. Taiwanfu is the name of the southern prefecture of Formosa as known to trade, the new official designation of "Tainanfu" not yet having come into general use. These figures denoting the yield of sugar obtained in the best-known years are only approximate. Both in the Takow and Taiwanfu divisions raw sugar is manufactured, this being the only description exported from Formosa. Takow sugar is an ordinary brown variety, that is to say, it is the raw, undrained article, exported as it comes from the boiling pans. The only modifications in quality known to the trade are those either consequent on an excess of molasses (*i. e.*, inversion, owing to deficiencies in the mode of manufacture) or on a superfluity of moisture, due to atmospheric conditions, varying with the period of the year at which the sugar is exported. Technically speaking, and in spite of the numerous drawbacks which its crude method of preparation presents, so rich is the quality of the cane, and so suitable the soil, that "Takow brown" at any time contains a proportion of crystallizable sugar which compares most satisfactorily with varieties produced elsewhere and under much more favorable conditions. Looking at this sugar merely as a saccharine material, western refineries would be glad to get it, but by reason of its gross adulteration with coarse extraneous matter, it is said not to be well adapted to the machinery in ordinary use, and this to some extent modifies the advantages its composition would seem at first sight to offer. For this reason, and the fact that the average cost price in Formosa has been much above that which might tempt foreign buyers, an outlet through western and American markets has been practically closed for several years.

From the foregoing and certain local considerations, the only two markets open for South Formosa sugars are Japan and North China. The consumers do not care for—in fact, will not have—refined sugar, or, what is the same thing otherwise expressed, crystallizable sugar entirely deprived of its concomitant molasses. The Chinese market in this respect, however, calls for a higher grade than that of the Japanese, for although they both agree in rejecting "refined sugar," still it can not be doubted that in North China, at least, great numbers of the consumers, while adhering to the preference for sugar containing some molasses, are not only willing, but in many cases demand, that this latter be reduced to the minimum compatible with what is, in tradal language, known as "raw," as distinguished from "refined." Hence in North China, South Formosa sugar that has been considerably drained of its molasses by means of the rough method known as "claying" finds a ready market, while in Japan there is no demand whatever for it. The Japanese, on the other hand, advancing toward, but not reaching, the Chinese standard, ask for a "brown" sugar, as light in color certainly as is compatible with that description, but absolutely refuse to touch any that has been drained even to the extent of bringing it up to the class known as "Taiwanfu white." Takow sugar, containing the greatest proportion of crystallizable matter, in conjunction with the demanded amount of molasses, commends itself, even to the rejection of the brown varieties produced in the Taiwanfu district, to the Japanese, because they, for their peculiar uses, recognize its superiority over the qualities less possessed of this substantial merit. To supply the Japanese demand the whole of the crop at present produced in the Takow district is inadequate; and in consequence of this ready outlet, together with the causes previously detailed, prices at the source of production are kept at a figure prohibitive of export to foreign countries for purposes of "refinement." This will also explain why no local refinery, in the European sense of the term, could be profitably worked in Formosa; and even if the foreign markets to which its outturn would be practically confined were sufficiently attractive, competition elsewhere must in the end prove too strong. Again, supposing it were worth while to treat the raw material on the spot, instead of selling it for refinement abroad, the whole crop in South Formosa is, at least under present conditions, so small that this fact alone would probably be deemed a sufficient bar to any such enterprise. No doubt in China there may be a comparatively small and well-to-do class to whom the attractive appearance of refined sugar proves effective as an inducement for purchase, but their patronage must be very limited when compared with that of the mass of consumers. But with the already large and increasing importation of refined sugar to Japan, it may warrant refineries being started solely to supply this market, although considerable improvement would be necessary in the preparation of the raw sugar before it could be refined on an equal basis with the raw material as supplied to the eastern refineries already in existence. As our object, however, at this time is merely to show what opportunities for trade Formosa sugar offers, and to discover, if possible, from the investigation whether openings exist sufficiently profitable to tempt foreigners to engage in it, confined as they must be by the limits that we have attempted to define, we will go on to describe such particulars of this trade as may afford necessary data for forming the desired conclusions. Four kinds or grades of sugar are produced in the Taiwanfu district, one of which ("lao-tsai") is not exported, but solely used for the production of so-called "white" sugar; while from the molasses drained therefrom in this process, a fifth variety is got by reboiling, and known as "cha-soa." The other three kinds of brown sugar produced in these districts are known, respectively, as "Sheung-tao," "Tiong-tay," and "Ka-pan," or "Shipo." They differ from each other by the care taken in manufacture, thus producing better graining with less amount of "invert sugar," and are classed in order of merit and price as above given, from the clean, fine-grained, dry "Sheung-tao" down to the irregularly crystallized "Ka-pan" with its superabundance of molasses. Practically the sole markets to which the Taiwanfu sugars, both white and brown, go are those supplied by the coast ports, beginning at or about Foochow, or Wenchow, in the south, and extending up to Tientsin and Niuchwang in the north. Shanghai, Chefoo, and Tientsin are the places through which the greatest bulk of the crop appears to be absorbed; but it must be noted that while the figures given in the customs returns refer entirely to sugar shipped in foreign bottoms, a certain and not inconsiderable amount is also carried away by native craft to places all along the coast line indicated. It is extremely difficult to get even an approximate estimate of what quantity does go away in junks, sailing, as these vessels do, from several small ports on the west coast of Formosa not open to foreign trade. The native-borne cargoes from Takow are comparatively small, no doubt, because of the very much greater demand for this sugar in Japan, to which place it is carried entirely in foreign ships. Owing to the determined action of the various sugar guilds in China and the pertinacity which they show in boycotting any foreign vendors who venture to engage in the trade, the latter have for several years, and after losing considerably by the attempt to overcome the opposition, completely refrained from further efforts; hence it comes about that the only chance they have of touching sugar in Formosa is for the Japanese market and from the Takow districts. Even here their connection with the trade, besides being somewhat precarious, is completely limited by, and dependent on, the good will of one or two native capitalists, who, for reasons previously detailed, may be said to possess full command of the whole Takow crop. In this latter district, one rich Chinese "hong" boast that they hold in their hands at least half of this year's produce, and that, by reason of their wealth and position, they can, to a considerable extent, control the disposal of the other moiety. Making every allowance for native vanity, it must be admitted that the assertion is not very far off the truth; for as a fact, there is but one other native merchant who can, or at any rate does, make any show of acting independently of the firm alluded to. There can be no doubt that the great majority of foreign merchants are compelled to resort to this hong for assistance in buying sugar or settling steamer freights from the port.

At first sight, it seems strange that this firm should concern themselves at all with foreigners, seeing that they ship largely to Yokohama on their own account, where they have a branch establishment. As their own working expenses are necessarily infinitely less than those of foreigners, to say nothing of the much lower prime cost at which they obtain their cargoes, they must always hold a commanding position in the competition, which, moreover, it would appear they can put an end to at any time they feel so disposed. It will be obvious from this that the openings available to foreign enterprise, even in the Takow sugar districts, have been as limited as their tenure is uncertain, and year by year, the cooperation of foreigners has been lessening, and there does not seem much reason for hope that, so long as matters remain as they are, foreign merchants can look for a fairer and more reliable share of the business. Although it has been shown that refineries, properly so called, would probably be a mistake, still a practical question remains, which may be stated as follows: Can persons with superior means at their disposal accept the crude material as at present obtainable in the island, and, by certain simple manipulations, produce an article suitable to the peculiar requirements of both Chinese and Japanese markets, which will, by its higher merits, take precedence of anything the native merchants can offer? It would seem that without going to any such very inadmissible extreme as is implied by the term "refinery" in its actual or ordinary technical acceptation, such a "plan of campaign" offers very reasonable prospects of success. It may be urged that the same reasons which at present limit the supply of the raw material for export by foreigners would prove obstructive to its possession for the treatment suggested, but in reply to this, it can be said that in the Taiwanfu district (the main products of which offer a tempting field for enterprise if only means could be devised for overcoming the artificial barriers set up against foreign participation by native brokers on the ultimate markets), there does not exist that limited native control of original material shown to be obtained in the Takow division; and thus the difficulty of supply does not arise. Therefore, those who can by rapidity of improved outturn command a supply of the latter at its source, would create a state of matters which would, in face of the demand abroad that has to be met, render foreigners nearly independent of any coalitions against them by rival mainland vendors. The allusion here made is chiefly to the grades of so-called "Taiwanfu white" sugar from "lao-tsai," and it must be understood that the process suggested does in no way affect compliance with the aforesaid requirements of the consumers or render the produce liable to be ranked as other than a drained variety of raw sugar, exactly similar in all details, save in superiority of quality, to what is at present imperfectly, and very slowly, got by "claying." In Takow, however, though there would have been under the old régime necessarily more local difficulty in commanding the supply of original material for improved treatment than there is now, apart from the great demand for improved "Takow brown" in Japan, and as the principal local obstructionist is so far aware of this as to have himself attempt a partial, though rough, compliance with the demand, by making laborious and limited selections which have already established a name for their mark ("H. H."), there is good reason to believe that, under this pressure, he would be more ready to cooperate further with foreigners in this direction than he would have dreamt of doing in the semicompetitive line he lately permitted them to take up. The sole reason, of course, for this complaisance would be that by it a greater profit might be anticipated than that which the most successful limitation, or even suppression, of foreign competition could under present conditions secure. Seeing that now his influence and control over the producers has been completely overcome, and thus any power remaining to him, for good or evil, must simply depend on his standing as a capitalist, it would seem that by means of the above alternative, of which the space at command only permits a hint in outline, participation in the Taiwanfu sugar trade, and also connection with that of the Takow district, may be obtained, and this without any radical revolution either in the original methods of growth and production or by setting up advanced establishments for producing sugars which would have to be placed on the markets in opposition to the sugars produced by the refineries which are in position to secure the raw product elsewhere more advantageously.

JAS. W. DAVIDSON.

COTTON-SPINNING INDUSTRY IN JAPAN.

I forward herewith a copy of an article on the "Present condition of the cotton-spinning industry in Japan," which appeared in the March number of the Kokumin-No-Tomo (The Far East), a native magazine, published in Tokyo. I consider the article a valuable one, since it was prepared by the Vice-Minister for Agriculture and Commerce, who is an exceptionally well-informed official and a man of conservative judgment.

I have added to the statistics furnished by Mr. Kaneko, a table, compiled from the "Annual returns of the foreign trade of Japan," showing the import of raw cotton from the United States in the years 1893, 1894, and 1895, as compared with imports from China and British India.

For the convenience of the Department, all statements of quantity and value have been reduced to our standard, their equivalents being given in separate columns. In making the reductions in statements of value, the yen has been roughly estimated or averaged at 50 cents.

N. W. McIVOR,
Consul-General.

KANAGAWA, *May 1, 1896.*

PRESENT CONDITION OF THE COTTON-SPINNING INDUSTRY IN JAPAN.

THE SUPPLY AND CONSUMPTION OF JAPANESE AND FOREIGN COTTON THREAD.

The cotton-spinning industry in Japan began to improve in 1887 and 1888, and the amount of cotton thread produced in the country has increased year after year, while the amount imported has gradually decreased. The home consumption of this article, however, has gone on increasing. The following is a comparative table which shows the amount imported and, also, the amount produced in the country since 1888:

Year.	Amount imported.		Amount produced in the country.		Total.	
	*Kin.**	*Pounds.*	*Kin.**	*Pounds.*	*Kin.**	*Pounds.*
1888	47,439,693	63,094,792	5,542,438	7,371,443	52,982,077	70,466,162
1889	42,810,912	56,934,513	20,938,963	27,848,821	63,749,875	84,787,334
1890	31,908,302	42,436,042	32,512,250	43,241,293	64,420,552	85,679,334
1891	17,337,600	23,059,008	45,300,406	60,257,520	62,644,006	83,316,528
1892	24,308,491	32,330,293	64,064,925	85,206,350	†80,975,140	†107,696,936
1893	19,405,152	25,808,852	63,632,100	84,630,693	†82,705,509	†109,998,327
1894	15,942,797	21,203,920	92,285,550	122,739,782	†101,854,759	†135,466,829
1895 (January to October)	10,653,283	14,168,866	(‡)	(‡)	(‡)	(‡)

*1 kin—1⅓ pounds. † Amount of export subtracted. ‡ Uncertain.

It will be seen from the above table that the amount produced in the country shows a great increase in contrast with the decrease in the amount imported since 1890, and this is due to the fact that the amount imported decreased as the home production increased. The amount of consumption of both Japanese and foreign cotton thread is also found to have considerably increased. There are many causes for this increased consumption, but the principal one is, doubtless, that the cotton cloth woven in farmhouses for private use is now largely made of machine-spun thread, and cloth woven with Japanese cotton thread alone has become very scarce. Moreover, the manner of living has generally become higher and the ostentatious customs of the time lead persons to use fine-looking cloth made of small thread, such as Futako-ori, or other cloths which will be worn out in a year, rather than the strong cloths made of larger thread which will last for two or three years. Again, it was the general custom of the people of Oshū and Hokkaidō to use second-hand clothing, but lately they have begun to use new clothing. The hand-spun thread used heretofore in the various localities now gives place to machine-spun thread on account of the cheaper price of the latter, and, as it is said that it had decreased by 70 per cent throughout the country in 1892, it is safe to say that it has almost gone out of use by this time. Such being the condition of things, we may assume that the whole consumption in the country is, practically, supplied by machine-spun thread. We may say, therefore, that the amount left, by subtracting the amount exported from the total of that imported and that produced in the country, is the amount consumed in the country. The following table shows the amount consumed per head in one year:

Year.	Amount consumed.		Population.	Percentage of amount consumed per head.	
	Kin.	*Pounds.*		*Kin.*	*Pounds.*
1894	101,845,759	135,454,859	41,695,565	2.4	3.2
1893	84,799,553	112,783,405	41,385,040	2	2.7
1892	80,083,563	106,511,139	41,089,942	1.9	2.5
Average	88,896,261	118,232,027	41,390,182	2.1	2.8

It will be seen that the amount of consumption per head increased year by year, and this increase is still going on at the present time.

COTTON THREAD IMPORTED FROM FOREIGN COUNTRIES.

As shown in the following table, the cotton thread imported into Japan is principally from England and India, very little being imported from other countries. In the space of five years, the amount imported from England has decreased from 17,000,000 pounds to 13,000,000 pounds, but that imported from India has decreased from 13,000,000 pounds to 2,000,000 pounds, a wonderful decrease. This is attributable to the fact that the thread from England is mostly small gassed, being 30-100 hanks, while that from India is large, below 20 hanks, the place of which could be taken by thread of home production. It will be seen, therefore, that although the supply of the larger kinds of thread is sufficient, the supply of the smaller kinds is still deficient.

Year.	Amount.		Price.	
England.	*Kin.*	*Pounds.*	*Yen.*	
1890	17,911,109	23,821,775	6,374,282	$3,250,884
1891	12,787,408	17,007,253	4,453,112	2,271,087
1892	16,048,337	21,344,288	5,316,682	2,711,508
1893	14,527,812	19,321,990	6,033,005	3,076,833
1894	13,606,172	18,096,209	6,288,690	3,717,232
1895	(*)	(*)	(*)	(*)
India.				
1890	13,970,025	18,580,131	3,542,529	1,806,690
1891	4,548,045	6,048,900	1,135,459	579,084
1892	8,258,369	10,983,631	1,814,394	925,341
1893	4,865,040	6,470,503	1,243,163	634,013
1894	2,333,625	3,103,721	687,556	350,654
1895	(*)	(*)	(*)	(*)

*Uncertain.

Cotton thread imported from foreign countries—Continued.

Year.	Amount.		Price.	
Other countries.	*Kin.*	*Pounds.*	*Yen.*	
1890				
1891	2,138	2,844	719	$366
1892	1,785	2,374	904	461
1893	12,300	16,359	8,075	4,118
1894	3,000	3,999	1,210	617
1895	(*)	(*)	(*)	(*)

*Uncertain.

SIGNS OF INCREASE IN THE DEMAND FOR SMALL KINDS OF THREAD.

The gradual increase in the demand for the smaller kinds of thread will be plain from the fact that the decrease is comparatively small in the amount imported from England. The thread from England, however, has not been altogether of the small kinds, but the larger kinds of 20-30 hanks have sometimes been imported. The thread of home production has succeeded in expelling the larger kinds, but as the demand for the smaller kinds above 40 or 50 hanks has increased, the decrease in the total is very small. There is no means yet of knowing the comparative ratio of the demand for small and large kinds of thread, but from the following table made from the Tokyo Menshishō Kumiai (Tokyo Thread Merchants' Association), which shows the amount of thread sold during the period of the four years 1891–1894, we see that the larger kinds of foreign thread No. 3 (16, 18, 20, 22, and 24) and No. 2 (28, 30, and 32) have decreased year after year, but the smaller kinds, No. 1 (38, 40, and 43), have decreased comparatively little, while the threads rated as 42, 60, and 80 hanks are found to have been imported in increasing quantities.

Amount of cotton thread sold by the Tokyo Menshishō Kumiai.

Thread.	1894.	1893.	1892.	1891.
	Kin.	*Kin.*	*Kin.*	*Kin.*
No. 3	3,300	6,203	9,495	9,783
No. 2	2,700	4,000	9,270	8,508
No. 1	850	1,000	1,783	1,106
32 hanks	700	900	909	883
42 hanks	4,000	4,500	3,960	2,222
Gassed:				
60 hanks	3,400	2,000	1,222	1,037
80 hanks	2,300	2,000	2,053	1,344
100 hanks	700	800	1,654	1,432

Amount of Japanese cotton thread sold by the Tokyo Menshishō Kumiai.

Description.	1894.	1893.	1892.	1891.
	Kin.	*Kin.*	*Kin.*	*Kin.*
Large thread (below 18 hanks)	58,912	38,940	47,394	33,605
Between 20 and 24 hanks	54,953	41,832	35,034	24,017
No. 2 (below 32 hanks)	22,653	19,955	10,849	8,140

According to the foregoing two tables, the demand for the smaller kinds of thread is gradually increasing. Again, it will be seen that the amount of home thread sold is increasing year by year, and the larger kinds of foreign thread have been entirely displaced. This fact agrees with what has been said before, that the larger kinds of thread are going to be gradually replaced by thread of home production. But it is not so with the smaller kinds, as their production is yet very limited.

THE CONDITION OF JAPANESE-SPUN THREAD.

The number of spindles at work since 1890 is as follows:

Year.	Perpendicular pins.	Oblique pins.	Total.
1890	141,921	111,545	253,466
1891	213,729	103,366	317,095
1892	239,014	99,294	338,308
1893	269,669	70,588	340,255
1894	409,404	66,588	475,992
1895 (first half period)	489,202	42,555	531,757

According to the examination made in December, 1895, the number of spindles is over 632,130 and the spindles under construction or planned, over 352,427, which, when added together, make a sum of 984,557. Moreover, as people are still planning new enterprises, the number of spindles will exceed 1,000,000 before the close of this year.

The amount of cotton thread manufactured by the foregoing number of spindles is as follows:

Year.	Amount of cotton thread manufactured in the country.		Amount of cotton thread imported from foreign countries.	
	Kin.	*Pounds.*	*Kin.*	*Pounds.*
1892	66,761,931	89,015,908	24,308,491	32,411,321
1893	67,527,345	90,036,460	19,405,152	25,873,536
1894	92,285,550	123,047,400	15,942,797	21,257,062
1895	...	...	12,356,688	16,475,584

By comparing the foreign and home supplies and considering the whole as regards the amount of consumption, it may be said that the home production will supply eight-tenths and the foreign production two-tenths of the whole consumption. The comparison of the amount alone may not be proper, as the foreign thread is mainly of the smaller kinds, but the comparison is made only to show the general proportion.

LARGE AND SMALL KINDS OF JAPANESE COTTON THREAD.

According to the report of the Cotton Spinning Association of 1894, the Japanese-spun thread was of the kinds between 3 and 70 hanks, and thread above 70 hanks had not yet been manufactured. But as there was a factory which had made arrangements to manufacture smaller kinds of thread, as well as gassed thread, in 1895, there has been more or less production of smaller kinds, but it has probably been very limited. Moreover, of the kinds between 3 and 70 hanks, the larger part was under 20 hanks, and thread above 20 hanks was produced in very small quantities. The following is the average number of the hanks manufactured by each spinning factory:

Year.	Average number of hanks.	
	Perpendicular pins.	Oblique pins.
1890	...	14½
1891	16½	14½
1892	16½	14½
1893	17¼	14¼
1894	18	16
1895 (first half period)	18	16½

It will be found from the above table that the production of the smaller kinds of thread is increasing year after year.

HOW MANY SPINDLES WILL BE NECESSARY TO SUPPLY THE PRESENT DEMAND?

This is a difficult problem. Some say that 600,000 spindles will be sufficient to meet the present demand. If the present number (530,000) of spindles can supply little more than eight-tenths of the home consumption, about 100,000 more spindles may not be sufficient to supply the whole consumption. Now, as the cotton thread imported is mostly of the smaller kinds, it will require a comparatively large number of spindles to produce such thread. Moreover, as the export of cotton cloth and thread to Korea and other eastern countries has an inclination to increase, it is difficult to know the number of spindles which will be sufficient to supply the increasing demand, but about 600,000 or 700,000 spindles will be sufficient to supply the home demand. Indeed, the actual number at the end of December, 1895, and the number under construction and planned, when added together, will exceed 984,000. If all of this enormous number of spindles is set to work, there will be an excess after it has supplied the home demand, and the amount of cotton cloth or thread exported will be greatly increased.

KANEKO KENTARO.[*]

Quantity and declared value of raw cotton imported into Japan from the United States, China, and British India in the years 1893, 1894, and 1895.

Year.	Quantity.		Value.	
United States.	*Catties.*	*Pounds.*	*Yen.*	
1893	6,160,340	8,213,786	1,273,421.24	$636,710.62
1894	12,056,816	16,065,754	2,680,671.32	1,340,335.66
1895	11,996,115	14,994,820	2,338,177.41	1,169,088.70
China.				
1893	50,183,891	66,901,854	7,805,999.86	3,902,999.93
	*21,152,494	*28,203,265	816,335.32	408,167.66
1894	51,783,548	74,994,730	8,120,417.36	4,060,208.68
	*10,356,433	*13,808,577	441,518.10	220,759.05
1895	82,171,626	109,562,168	13,786,101.34	6,893,050.67
	*8,597,137	*11,462,849	374,200.40	187,100.20
British India.				
1893	36,592,406	48,789,874	6,052,047.77	3,026,023.88
1894	42,354,246	56,472,328	7,846,589.47	3,923,294.73
1895	46,683,887	62,245,182	7,693,224.26	3,846,612.13
	*7,400	*9,860	259.00	129.50

* On the seeds.

NOTE.—In making the reductions of quantity and values in the above table to the standards of the United States, the catty has been estimated at 1⅓ pounds and the yen at 50 cents.

RAILWAY SUPPLIES FOR CHINA.

I inclose an "express" that has just been issued, by which it will be seen that tenders (proposals) for four freight engines and four passenger engines for use on the extension of the imperial railways from Tientsin to Lu-Kou-

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[*] Mr. Kaneko is now Vice-Minister of State for Agriculture and Commerce. He studied public law in America, and performed valuable service in connection with drafting our constitution. He was also admitted to membership in l'Institut de Droit International, to which he reported on the legal institutions of Japan. Before he was appointed to his present position, he was the chief secretary of the House of Peers.

Chiao will be opened at the company's office at Tientsin at 11 a. m. on the 25th of August, 1896. I also inclose the express of the 8th of February, issued during my absence on the Chengtu commission. Manufacturers of railway supplies in the United States should be properly represented in China, by American firms if possible, in order that they may not miss opportunities to bid for contracts.

SHERIDAN P. READ,
Consul.

TIENTSIN, *May 7, 1896.*

IMPERIAL RAILWAYS OF NORTH CHINA—LU-KOU-CHIAO EXTENSION.

Locomotive contract—indent No. 1037.

To our express of February 8, headed locomotive contract, I beg to add, by order of his excellency the director-general, that the contract calls for four freight engines and four passenger engines—eight in all; and that their tenders will be opened in this office at 11 a. m. on the 25th of August, 1896.

Y. T. LIN,
Secretary.

HEAD OFFICE, TIENTSIN, *May 4, 1896.*

IMPERIAL CHINESE RAILWAYS—LU-KOU-CHIAO EXTENSION.

Locomotive contract—indent No. 1037.

Tenders are required for providing eight powerful locomotives. They must be sent in not later than August, 1896, and the engines must be delivered on Tong-ku wharf in perfect condition and ready for erection not later than May, 1897. Specifications can be obtained at the head office, Tientsin, on payment of $5 per copy.

Quotations must be made in pounds sterling, and payments will be made as under: Two-thirds on certificate of shipment being presented as to be arranged in contract; one-sixth on arrival of shipment at Tong-ku; one-sixth after erection and testing under steam, but not later than three months after delivery on wharf of any one complete engine.

Tenders must be accompanied with drawings to indicate general design of engines and specification giving complete data as to dimensions and quality of all important parts. These can be returned at owner's risk. Inspection will be arranged for when signing contract. The directors do not bind themselves to accept the lowest or any tender.

By order.

Y. T. LIN,
Secretary.

TIENTSIN, *February 8, 1896.*

NOTE.—Vessels drawing 12 feet of water can cross Taku bar at favorable tides and reach the Tong-ku wharf, where a 20-ton crane is available.

SUEZ CANAL TRAFFIC.

The following statistics are taken from the report of the British directors of the Suez Canal to the Marquis of Salisbury, dated Paris, April 30, 1896, and presented to both Houses of Parliament in May.

Monthly return of the shipping and tonnage that passed through the Suez Canal, together with the transit receipts, for the years 1893, 1894, and 1895.

Month.	Vessels.	Gross tonnage.	Net tonnage.	Transit receipts.
1893.		*Tons.*	*Tons.*	*Francs.*
January	317	979,898.73	699,043.84	6,378,972.94
February	241	781,188.1	554,848.934	5,118,517.71
March	313	992,819.66	707,698.24	6,518,581.66
April	301	969,239.417	693,143.354	6,389,347.12
May	332	1,024,580.13	730,171.8	6,847,371.30
June	292	933,316.48	668,748.75	6,109,057.93
July	268	879,125.19	628,987.204	5,739,377.34
August	278	879,034.404	624,609.274	5,836,621.40
September	244	808,024.401	575,983.684	5,312,177.84
October	272	879,036.42	624,859.99	5,770,385.71
November	222	739,457.02	520,862.3	4,846,550.93
December	261	888,078.203	630,110.735	5,800,399.55
Total	3,341	10,753,798.155	7,659,068.105	70,667,361.43
1894.				
January	263	875,925.76	623,297.87	5,708,803.33
February	262	878,754.393	625,090.775	5,703,453.44
March	325	1,097,963.72	784,940.388	7,164,557.65
April	317	1,037,113.931	740,217.522	6,780,324.77
May	303	1,009,139.18	722,643.78	6,639,578.10
June	291	978,476.169	699,349.035	6,389,042.21
July	265	878,468.114	630,046.19	5,768,523.89
August	273	938,955.409	670,555.665	6,105,722.84
September	261	888,577.42	633,574.44	5,824,249.96
October	277	962,091.036	681,052.357	6,306,471.22
November	240	814,059.84	573,106.599	5,336,989.39
December	275	924,329.749	655,300.655	6,049,110.88
Total	3,352	11,283,854.721	8,039,175.276	73,776,827.68
1895.				
January	273	927,046.75	661,214.65	6,096,973.79
February	277	939,693.208	669,751.066	6,145,802.77
March	323	1,114,809.196	798,729.31	7,345,787.75
April	337	1,132,667.554	810,115.62	7,599,769.56
May	285	952,233.2	674,323.75	6,223,774.38
June	260	920,482.269	660,512.878	6,016,652.88
July	309	1,029,690.294	739,579.17	6,800,720.59
August	288	1,000,973.039	718,940.525	6,592,678.93
September	270	951,643.32	681,959.93	6,287,994.63
October	276	965,372.618	686,169.689	6,416,201.86
November	252	898,776.092	637,620.843	5,917,069.16
December	284	1,000,249.791	709,465.584	6,660,291.26
Total	3,434	11,833,637.331	8,448,383.015	78,103,717.56

Return showing the number of vessels and tonnage that passed through the Suez Canal during the years 1893, 1894, and 1895, arranged under their respective flags.

Flag.	Vessels.	Gross tonnage.	Net tonnage.
1893.		*Tons.*	*Tons.*
Great Britain	2,405	7,977,727.7	5,752,934.35
Germany	272	798,929.44	555,750.83
France	190	702,634.251	461,197.291
Holland	178	443,147.544	327,465.244
Italy	67	183,492.21	119,827.02
Austria-Hungary	71	251,467.84	166,779.45
Spain	29	100,706.06	70,660.42
Norway	50	119,615.64	88,674.92
Russia	24	82,767.34	53,548.44
Turkey	34	55,406.75	39,601.92
Egypt	5	7,466.12	4,441.67
Japan	1	2,846.63	1,280.98
Portugal	10	17,398.71	11,309.13
Belgium	1	2,546.24	1,761.31
American	3	6,526.33	3,200.2
Brazil	1	1,119.35	634.93
Total	3,341	10,753,798.155	7,659,068.105
1894.			
Great Britain	2,386	8,326,825.96	5,996,796.37
Germany	296	887,362.882	626,361.73
France	185	710,990.481	467,365.785
Holland	191	484,570.25	356,530.282
Italy	63	181,148.57	119,084.93
Austria-Hungary	78	278,791.948	187.998.649
Spain	28	118,233.18	82,269.52
Norway	41	92,322.99	68,123.27
Russia	35	119,362.74	77,421.38
Turkey	33	57,038.2	39,395.56
Egypt	2	3,174.81	1,905.22
Japan	6	17,148.04	12,103.56
Portugal	2	1,201.73	672.29
American	5	5,435.86	3,001.71
Nicaragua	1	247.08	145.02
Total	3,352	11,283,854.721	8,039,175.276
1895.			
Great Britain	2,318	8,382,075.28	6,062,587.39
Germany	314	977,028.754	693,645.33
France	278	1,005,050.874	672,898.619
Holland	192	497,902.69	365,770.91
Italy	78	224,358	146,161.24
Austria-Hungary	72	248,984.96	166,426.74
Spain	33	140,007.06	95,623.24
Norway	57	145,876.8	108,685.67
Russia	39	137,287.73	87,101.39
Turkey	36	51,954.143	35,183.956
Egypt	2	3,562.4	2,274.18
Japan	2	3,401.34	2,354.73
Portugal	3	6,090.06	3,580.16
American	5	4,606.07	2,470.65
China	2	1,075.41	483.94
Denmark	1	1,207.63	863.53
Sweden	2	3,168.13	2,271.14
Total	3,434	11,833,637.331	8,448,383.015

Return showing the percentage of the shipping and tonnage of all flags that passed through the Suez Canal during the years 1893, 1894, and 1895.

Flag.	1893.			1894.			1895.		
	Vessels.	Gross tonnage.	Net tonnage.	Vessels.	Gross tonnage.	Net tonnage.	Vessels.	Gross tonnage.	Net tonnage.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Great Britain	72	74.2	75.1	71.2	73.8	74.6	67.5	70.8	71.8
Germany	8.1	7.4	7.2	8.8	7.9	7.8	9.1	8.3	8.2
France	5.7	6.6	6	5.5	6.3	5.8	8.1	8.5	8
Holland	5.4	4.1	4.3	5.7	4.3	4.4	5.6	4.2	4.3
Italy	2	1.7	1.6	1.9	1.6	1.5	2.3	1.9	1.7
Austria-Hungary	2.1	2.3	2.2	2.3	2.5	2.3	2.1	2.1	2
Spain	0.9	1	0.9	0.8	1	1	1	1.2	1.2
Norway	1.5	1	1.2	1.2	0.8	0.9	1.6	1.2	1.3
Russia	0.7	0.8	0.7	1.1	1.1	1	1.1	1.2	1.1
Turkey	1	0.5	0.5	1	0.5	0.5	1	0.5	0.4
Egypt	0.2	0.1	0.1	0.1	0.03	0.02	0.1	0.03	0.03
Japan	0.03	0.03	0.03	0.2	0.2	0.2	0.1	0.02	0.03
Portugal	0.3	0.2	0.1	0.1	0.01	0.01	0.1	0.1	0.04
Belgium	0.03	0.02	0.02	......	......	......	......	......	......
American	0.1	0.1	0.1	0.1	0.04	0.04	0.1	0.04	0.2
China	......	......	......	......	......	......	0.1	0.1	0.005
Denmark	......	......	......	......	......	......	0.02	0.01	0.01
Brazil	0.03	0.01	0.01	......	......	......	......	......	......
Sweden	......	......	......	......	......	......	0.1	0.02	0.02
Nicaragua	......	......	......	0.03	0.002	0.001	......	......	......
Total	100	100	100	100	100	100	100	100	100

Return of shipping and tonnage that passed through the Suez Canal during the year 1895, arranged under their respective flags and categories.

Flag.	Merchant vessels.		Mail steamers.		War ships and transports.	
	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.
		Tons.		*Tons.*		*Tons.*
Great Britain	2,209	5,116,063.02	241	791,197.24	32	49,250.1
Germany	220	439,509.21	84	248,308.45	9	4,844.68
France	97	204,532.16	101	289,094.13	21	47,782.059
Holland	88	147,793.22	103	217,776.93	1	200.76
Italy	4	4,351.14	52	117,978.49	12	7,675.94
Austria-Hungary	15	28,179.61	48	130,715.98	4	1,795.82
Spain	6	17,931.06	26	77,060.31	1	631.87
Norway	57	108,685.87	......	......	......	......
Russia	3	421.11	29	80,456.62	7	6,223.66
Turkey	24	29,203.96	......	......	12	5,979.996
Egypt	2	2,274.18	......	......	......	......
Japan	2	2,354.73	......	......	......	......
Portugal	......	......	......	......	2	1,297.56
American	2	555.92	......	......	3	1,914.73
China	......	......	......	......	2	483.94
Denmark	1	863.53	......	......	......	......
Sweden	2	2,271.14	......	......	......	......
Total	2,532	6,104,989.86	684	1,952,588.15	106	128,081.115

Return of shipping and tonnage according to flag, etc.—Continued.

Flag.	Government-chartered vessels.		Vessels in ballast.		Total.	
	No.	Net tonnage.	No.	Net tonnage.	No.	Net tonnage.
		Tons.		*Tons.*		*Tons.*
Great Britain	22	80,129.11	14	25,947.92	2,318	6,062,587.39
Germany			1	982.99	314	693,645.33
France	58	128,583.2	1	2,907.07	278	672,898.619
Holland					192	365,770.91
Italy	6	11,293.11	4	4,862.56	78	146,161.24
Austria-Hungary			5	5,735.33	72	166,426.74
Spain					33	95,623.24
Norway					57	108,685.87
Russia					39	87,101.39
Turkey					36	35,183.956
Egypt					2	2,274.18
Japan					2	2,354.73
Portugal	1	2,282.6			3	3,580.16
American					5	2,470.65
China					2	483.94
Denmark					1	863.53
Sweden					2	2,271.14
Total	87	222,288.02	25	40,435.87	3,434	8,448,383.015

Yearly return of shipping and tonnage that passed through the Suez Canal from its opening until the year 1895, together with the transit receipts.

Year.	Number of vessels.	Gross tonnage.	Net tonnage.	Transit receipts.	Mean net tonnage per vessel.
				Francs.	
1869	10	10,557.61	6,576	54,460.80	657
1870	486	654,915.02	436,609.37	5,159,327.22	898
1871	765	1,142,200.46	761,467.05	8,993,732.87	995
1872	1,082	1,744,481.32	1,160,743.54	16,407,591.42	1,071
1873	1,173	2,085,072.61	1,367,767.82	22,897,319.18	1,166
1874	1,264	2,423,672.22	1,631,650.14	24,859,383.00	1,290
1875	1,494	2,940,708.45	2,009,984.09	28,886,302.27	1,345
1876	1,457	3,072,107.01	2,096,771.61	29,974,998.74	1,439
1877	1,663	3,418,949.72	2,355,447.69	32,774,344.22	1,416
1878	1,593	3,291,535.38	2,269,678.31	31,098,229.18	1,425
1879	1,477	3,236,942.32	2,263,332.19	29,686,060.81	1,532
1880	2,026	4,344,519.89	3,057,421.88	39,840,487.64	1,509
1881	2,727	5,794,491.19	4,136,779.77	51,274,352.95	1,517
1882	3,198	7,122,125.68	5,074,808.88	60,545,882.08	1,586
1883	3,307	8,051,307.3	5,775,861.79	65,847,812.16	1,746
1884	3,284	8,319,967.36	5,871,500.92	62,378,115.54	1,787
1885	3,624	8,985,411.8	6,335,752.98	62,207,439.21	1,748
1886	3,100	8,183,313.15	5,767,655.84	56,527,390.58	1,860
1887	3,137	8,430,043.2	5,903,024.09	57,862,370.71	1,881
1888	3,440	9,437,957.32	6,640,834.44	64,832,273.20	1,930
1889	3,425	9,605,745.48	6,783,187.12	66,167,579.14	1,951
1890	3,389	9,749,129.09	6,890,094.41	66,984,000.22	2,033
1891	4,207	12,217,986.41	8,698,777.36	83,422,101.24	2,067
1892	3,559	10,866,401.468	7,712,028.61	74,452,436.03	2,166.9
1893	3,341	10,753,798.155	7,659,068.105	70,667,361.43	2,292.447
1894	3,352	11,283,854.721	8,039,175.276	73,776,827.68	2,398.321
1895	3,434	11,833,637.331	8,448,383.015	78,103,717.56	2,460.219

Monthly return of vessels for 1895, giving the mean duration of passage of such as navigated by night, as compared with those navigating by day only.

Month.	Mean duration of passage.								
	For vessels navigating by night as well as by day.			For vessels navigating by day only.			For all vessels.		
	Number of vessels.	Duration.		Number of vessels.	Duration.		Number of vessels.	Duration.	
		Hrs.	*m.*		*Hrs.*	*m.*		*Hrs.*	*m.*
January	256	18	29	17	29	47	273	19	12
February	271	20	34	6	41	39	277	21	2
March	306	20	35	17	36	30	323	21	25
April	322	19	58	15	33	22	337	20	33
May	261	19	4	24	27	12	285	19	45
June	253	17	44	7	25	56	260	17	57
July	282	17	59	27	25	42	309	18	39
August	279	18	36	9	26	13	288	18	19
September	262	18	3	8	24	7	270	18	14
October	256	17	29	20	31	39	276	18	31
November	241	17	53	11	29	54	252	18	24
December	277	18	44	7	39	41	284	18	46
Total and total mean duration	3,266	18	44	168	30	12	3,434	19	18

Return showing the draft of water of vessels that passed through the Suez Canal for the years 1886 to 1895, inclusive.

Draft.	1886.		1887.		1888.		1889.		1890.	
	No.	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*
Less than 22 feet 11 inches	2,426	78.26	2,359	75.19	2,469	71.77	2,436	71.12	2,395	70.67
23 feet 3 inches	190	6.13	139	6.03	223	6.48	236	6.89	230	6.79
23 feet 7 inches	143	4.61	173	5.52	197	5.73	218	6.37	189	5.58
23 feet 11 inches	112	3.61	109	3.48	122	3.55	122	3.56	87	2.57
24 feet 3 inches	125	4.03	151	4.81	147	4.27	149	4.35	165	4.87
24 feet 7 inches	104	3.36	156	4.97	282	8.2	264	7.71	178	5.25
24 feet 11 inches	....	....	....	....	....	....	....	....	53	1.56
25 feet 3 inches	....	....	....	....	....	....	....	....	48	1.41
25 feet 7 inches	....	....	....	....	....	....	....	....	44	1.3
Total	3,100	....	3,187	....	3,440	....	3,425	....	3,389	....

Draft.	1891.		1892.		1893.		1894.		1895.	
	No.	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*	*No.*	*Per ct.*
Less than 22 feet 11 inches	3,187	75.76	2,609	73.31	2,303	68.93	2,206	65.8	2,184	63.6
23 feet 3 inches	241	5.73	225	6.32	251	7.51	278	8.3	270	7.8
23 feet 7 inches	208	4.94	201	5.65	213	6.38	218	6.5	242	7
23 feet 11 inches	135	3.21	120	3.37	109	3.26	120	3.6	126	3.7
24 feet 3 inches	182	4.33	174	4.89	188	5.63	228	6.8	241	7
24 feet 7 inches	119	2.83	103	2.89	113	3.38	130	3.9	143	4.2
24 feet 11 inches	54	1.28	51	1.43	60	1.79	47	1.4	55	1.6
25 feet 3 inches	46	1.09	44	1.24	48	1.44	59	1.7	88	2.6
25 feet 7 inches	35	0.83	32	0.9	56	1.68	66	2	85	2.5
Total	4,207	....	3,559	....	3,341	....	3,352	....	3,434	....

NOTE.—Since April 15, 1890, vessels with a draft of water of 7 8 meters (25 feet 7 inches) have been allowed to pass through the canal.

Number and classification of passengers both outward and homeward bound, exclusive of ships' crews, that passed through the Suez Canal during the years 1894 and 1895.

Classification.	1894.			1895.		
	Outward bound.	Homeward bound.	Total.	Outward bound.	Homeward bound.	Total.
Military:						
English	19,873	17,887	37,760	16,568	13,269	29,837
French	8,597	6,376	14,973	27,712	19,454	47,166
Italian	1,056	1,535	2,591	9,550	1,125	10,675
Turkish	7,556	162	7,718	9,418	5,200	14,618
Russian	811	2,933	3,744	4,174	4,686	8,860
Dutch	3,345	1,333	4,678	1,721	1,473	3,194
Spanish	1,025	699	1,724	1,193	601	1,794
German	110	116	226	231	1,103	1,334
Portuguese		14	14	616	480	1,096
Austrian					35	35
Chinese					26	26
Military total	42,373	31,055	73,428	71,183	47,452	118,635
Civilians	35,396¼	36,600	71,996¼	37,772½	37,105½	74,878
Pilgrims, emigrants, and convicts	11,473	9,089	20,562	11,972	11,451	23,423
Total	89,242¼	76,744	165,986¼	120,927½	96,008½	216,936

Return showing the number of passengers carried through the Suez Canal from its opening to the end of the year 1895.

Year.	Military.	Civilians.	Pilgrims, emigrants, and convicts.	Total passengers on vessels.	Total passengers on boats.	Total.
1870				26,758		
1871				48,422		
1872				67,640		
1873				68,030		
1874				73,597		
1875				84,446		
1876*	30,420	20,832	8,362	59,614		
1877	39,463	24,409	8,949	72,821		
1878	58,274	26,170	11,919	96,363		
1879	42,775	26,697	12,672	82,144		
1880	49,493	29,139	20,268	98,900		
1881	43,163	35,604	8,039	86,806		
1882	62,898	38,288	20,686	121,872		
1883	47,919	36,149	31,529	†115,597	3,579	119,176
1884	74,318	39,987	34,993	148,298	3,618	151,916
1885	112,230	47,068	42,473	201,771	4,178	205,949
1886	84,593	55,320	27,709	167,622	3,788	171,410
1887	91,966	53,414	33,405	178,785	4,211	182,996
1888	87,131	63,103	29,231	179,465	4,430	183,895
1889	75,445	72,192	27,868	175,505	5,087	180,592
1890	67,767	69,479	18,430	155,676	5,676	161,352
1891	93,780	73,562	20,784	188,126	6,347	194,473
1892	91,743	70,239	21,929	183,912	5,907	189,820
1893	71,880	67,262	41,290	180,432	6,066	186,498
1894	73,428	71,996	20,562	165,986	17	166,003
1895	118,635	74,878	23,423	216,936	4½	216,940½

* The distinction has only been made since 1876.

† Until 1883, the passengers on boats were included in the total of passengers on vessels.

CROP PROSPECTS IN SPAIN.

The month of May brought great relief to the whole country on account of the rain which began on or about the 8th of the month and continued with frequency throughout the entire month, thus ending the drought that threatened the ruin of the wheat and other crops as referred to in my dispatch of the 1st ultimo.* The frequent rains and the cool weather have been providential for the country.

It is now said the grain crop of Spain will not be so nearly a failure as was threatened one month ago, though it will fall far below the average yield, and much grain must be imported. The favorable May weather also afforded great relief to the vines in this district. They are now looking remarkably well and promise a good yield.

Lemons and oranges promise a good average crop.

Almonds show an excellent prospect for a good crop, but a windy June would be injurious. As the olive trees are now in blossom, no opinion can be given as to the outlook. I have neither seen nor heard of anything further relative to the insect which was said to have attacked the wheat fields in some of the northern provinces and referred to in my dispatch of the 1st ultimo.

I would say there were as many rainy days during the month of May, according to information received, as during the first four months of this year, while the average temperature for the month was but 5° F. higher than during the month of March last.

DAVID N. BURKE,
Consul.

MALAGA, *June 1, 1896.*

STRIKE OF COAL MINERS IN NEW SOUTH WALES.

On April 10, 1896, I informed the Department that the coal miners of this district suspended their strike notice for one week, so that the pits were not laid idle until the 25th of that month. The object of the postponement was to allow time for a conference, which was called, at the request of the local municipal bodies, by the Hon. G. H. Reid, the Premier, at which all the colliery proprietors' and miners' representatives of northern New South Wales met in Sydney, at the office of the Colonial Secretary, on the 22d of April, the Premier in the chair, to devise means of averting the impending strike.

I may here say that at the coal mines south and west of Sydney, which are capable of producing about 30,000 tons per week, no disagreement between masters and men exists, so that work there, naturally enough, is proceeding vigorously and without interruption, while the northern mines, with an output capacity of over double that quantity, are on strike.

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* Printed in CONSULAR REPORTS No. 189 (June, 1896), p. 343.

A time-honored custom in the north has been that payment to the miner for hewing and all other work done and performed by him, such as driving headings, filling small coal in the pits, removing refuse in the seam, timbering, etc., rise and fall in sympathy with the selling price. The hewing rate is for clean round coal only, that passes over screens at the collieries having a mesh of three-fourths of an inch; for the small coal which passes through the screen no payment is made.

The last general agreement, dated January, 1893, between the owners and the miners, was canceled in December, 1893, since which time there has been no fresh agreement substituted. The agreement provided that 4s. 2d. ($1) should be the rate payable to miners for hewing when the selling price of screened coal was 11s. ($2.68) per ton, the wages to be increased or reduced 4d. (8 cents) in the 1s. (24 cents), but the scale of payment should not operate below 3s. 6d. (85 cents), this being the rate payable at a 9s. ($2.19) selling price, which was deemed at the time to be the minimum. Small coal is sold at about half the price charged for round or screened coal.

Since the owners' combination, formed for maintaining the selling price, was dissolved, over two years ago, prices became gradually reduced until, say, 7s. ($1.70) may be quoted as the price at the time just before the strike commenced as the average for the better class of coal, and the miners' wages have been lowered to 3s. (73 cents) per ton, and, in some cases, to much below that figure. The prices paid them for other work have been reduced in proportion.

The effect of the lowering of the selling price has been to create such a demand as to have kept nearly all the mines almost constantly employed, and now, after a fortnight's stoppage, during which the miners have lost in wages $80,000, there are about eighty deep-sea vessels in port, with a coal-carrying capacity of some 200,000 tons, having either to go away in ballast or wait for an indefinite time their turn to load. This is quite independent of vessels employed in the intercolonial trade. Some foreign-going ships have already left in ballast and others are expected to follow.

It is unfortunate that the miners usually select a very busy time—when the harbor is well stocked with ships—to strike, believing that colliery owners are more likely to give way then than during a slack period. But, so far, with the exception of a few very unimportant cases, the owners are standing fast, and as the miners' association funds amount to only about $4,000 ($2 per man) it is unlikely they can hold out very long.

About 50 per cent of the coal miners are Englishmen, mostly Northumbrians, 20 per cent Welsh, 20 per cent Scotch, and the remaining 10 per cent Irishmen and foreigners. There are very few Americans, the foreigners being mostly Germans.

There are no means of ascertaining with anything like accuracy the average earnings per man throughout the district, but it certainly is not less than $1.82 net for eight hours' work or less. Their union rules do not allow them to work more than eleven days in a fortnight, nor more than eight hours per day. The employment they have been getting for months past has averaged ten days per fortnight, against about seven days when higher selling prices ruled.

The miners allege that the selling price of coal could be raised to 9s. ($2.19) per ton without seriously affecting the demand, and that, as a consequence, employers would make more money themselves and be able to pay better wages. The owners aver that owing to the very great competition of the southern mines of New South Wales, mines in New Zealand and Victoria, in intercolonial markets, and of the mines on the northwest coast of America, British and Japanese, in foreign markets, it would be impossible to raise their prices without losing a very large percentage of their trade. According to the Colliery Guardian, a recognized English authority, coal in the United Kingdom, Germany, France, and Belgium has fallen in price, to a greater or less extent, since 1892, and prices of coal at all ports to which New South Wales coal is sent, is lower now than formerly; that some of their collieries have never paid a dividend, while others have not paid a dividend for years; and that the miner, although earning less per day than under former scales of payment, has, consequent upon more regular work being available, more money to take home each fortnight than he ever had before.

The result of the conference was that the Premier submitted to the miners' representatives the following from the owners:

> Proposals for miners to continue working until September 9, until which time the conference stands adjourned, when the question of increased advance in the hewing rate is to be discussed at the conference in September. In the meantime, all the collieries represented in the northern district guaranty that no further reduction in wages will be made until the end of 1897, and probably not then.

The miners' representatives then passed the following:

> That the proposals of the conference be submitted to the miners' lodges for their approval or otherwise.

The proposals were accordingly placed before the men, who rejected them by a very large majority, which leaves open to the employers the right to further reduce wages, should they so decide and be able to enforce a reduction. Any attempt of this kind would, however, tend to prolong the stoppage of work, which has caused already much distress here. The distributing merchants of Newcastle held a meeting a few days ago and decided that all goods to storekeepers must be paid for on delivery.

STEWART KEIGHTLEY,
Vice-Commercial Agent.

NEWCASTLE, *May 9, 1896.*

SUPPLEMENTARY.

A report dated June 6, detailing the progress of the Newcastle coal strike, has been received from Vice-Commercial Agent Keightley, in time to allow the insertion of this note.

During the continuance of the strike, there has been no breach of the peace on the part of the strikers, a condition chiefly due to the fact that no outside labor has been called in to take the places of the strikers; neither has the price of coal advanced as a consequence of the strike, as on former strike occasions, for, owing to the development of the other coal districts of New South Wales, coal is abundant and cheap.

Mr. Keightley sums up the situation, on the date of his writing, as follows:

> All the indications point to a resumption of work at the collieries within a very short time. During the six weeks gone by since the miners ceased work, the strike pay has been only $1.46 per man. The union is practically bankrupt, and as funds from other labor bodies are coming in slowly and in small sums, the next allowance will probably be smaller. The further prolongation of the strike would, therefore, seem to be almost impossible.

HORSELESS CARRIAGES IN EUROPE.*

That intense interest was manifested in France in the race of horseless carriages (voitures automobiles) between Paris and Bordeaux in June last, can not be questioned, nor has this interest been confined to France alone. England quickly caught the contagion, and apparently grasped the enormous importance of these new vehicles and foresaw the probable revolution they would cause in the use of horses for certain purposes.

It is not at all improbable that we are about to behold the use of animal power superseded, to a great degree, by these machines, which have recently made such rapid strides toward perfection and so thoroughly demonstrated their practicability.

These carriages, just now occupying so much public attention both in France and England, are as yet hardly put to much more practical uses than those of sport and pleasure, and have scarcely ceased to be regarded as playthings, but it can hardly be questioned that in the near future they will be put to other and eminently practical uses.

It is possible and quite probable that we are about to witness their introduction where they will supplant the use of horses for certain business and trade purposes; here, they have an undoubted future.

The first noticeable public interest in these modern horseless carriages was aroused by an exhibition held last June in Paris. This led to a race being organized between Paris and Bordeaux and return, which was started June 11. It was in this race that the merits and possibilities of these vehicles as a new means of locomotion were made manifest.

The sudden and widespread interest this race created in France was not long in communicating itself to England. This resulted in an exhibition of horseless carriages being organized at Tunbridge Wells by Sir David

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*For previous reports upon this subject, see "Horseless carriages in France," in CONSULAR REPORTS No. 180 (September, 1895), p. 25, and a supplementary report in CONSULAR REPORTS No. 182 (November, 1895), p. 265.

Salomons, the mayor of the city, to whom, more than to any other individual, is due the popularity of the machines in England.

The exhibition was held last month and caused great interest. This exhibition and horseless carriages have ever since been a fruitful topic of discussion in the English press, much anxiety being expressed lest England had been slow in grasping the importance of these vehicles as a means of locomotion. Everywhere in England, we find them being taken in this connection quite seriously.

The idea of horseless carriages is by no means new. One of the needs of the age has been a conveyance propelled by steam, electricity, or some other motive power which would convey passengers and produce along the common roads of town or country at a maximum speed of 15 miles per hour.

In the middle of the last century, a steam vehicle was constructed in France to travel on the highways. This vehicle is said to be still in one of the Paris museums.

Coming down to a later day, it is worthy of note that in England, in 1827, a steam carriage was built and exhibited in Regents Park by a certain Mr. Gurney, who is said to have modeled his machinery upon the construction of a horse's body. This carriage resembled a stagecoach and was exceedingly awkward in appearance; its weight is said to have been a ton and a half.

Seven years later, in 1834, we find that there was a steam carriage called the "Era" carrying passengers between Paddington and London at a fare of 6d. It is stated that from 8 to 12 pounds of coke and 100 pounds of water were used per mile in propelling this vehicle.

In the year 1836, a Parliamentary committee of inquiry sat and reported strongly in favor of these steam carriages on roads. The report was divided into nine sections, the first six dealing with the desirability of this mode of locomotion, the seventh with its advantages, and the last two with more general remarks.*

The sixty-one years that have elapsed since the "Era" ran have seen no further advance in this direction in England. Doubtless legislation has, to a large extent, strange as it may seem, been the cause of this. Parliament has caused the enactment of various laws to prohibit the use of streets and highways by vehicles with other than animal power. Among the laws, is one known as the "highways and locomotives act," which prohibits a locomotive propelled by steam or other than animal power from being driven at a speed of more than 4 miles an hour. The vehicle must furthermore have tires 3 inches or more in width, must have three persons or more to drive or conduct it, one of whom must precede it on foot by 20 yards. This and similar acts were originally passed to remedy "mischiefs" caused by traction engines and steam rollers, chief among which were damage to bridges in the country, due to the ponderous weight of locomotives, and nuisance caused by the rattling of machinery and emission of smoke. It is said that all horseless carriages, electric or other motive power, bicycles, and tricycles come within this law. Although the latter weigh but a few pounds, it is sufficient that they are propelled by some motive power to put them under the ban, though emitting no smell or smoke.

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* These facts can be found in the Mirror, vol. 28.

The English press discusses seriously the enforcement of these laws as far as horseless carriages are concerned. One may, however, expect a common-sense view of the matter to prevail and the removal of the restrictions in so far as horseless carriages are concerned. In the meantime, the subject is being actively discussed.

In France and Germany, there exist apparently no laws to prevent the use of common roads by such carriages. For years, vehicles have been driven in Paris by electricity and compressed air.

One outcome of the Paris-Bordeaux race has been the formation in Paris of an automobile club (with a member of the Institute and a member of the Chamber of Deputies as honorary presidents) for encouraging the employment of these and similar vehicles. Already, their use is rapidly extending in France, and the various manufacturers report as many orders on hand as can possibly be undertaken. In fact, horseless carriages bid fair to become a craze in England; they have already become so in France. The departure that we are apparently now on the eve of is richer in possibilities than that of thirty years ago, which has resulted in the production of the vast bicycle industry.

Some difficulty is experienced in finding a suitable English name for the new vehicle. "Horseless carriage" is pronounced unendurable and "automatic carriage" not much better. "Automobile," the French name, has been adopted to some extent in England. "Autocar," while not strictly etymological, conveys the meaning and may be ultimately adopted in England.

A better idea of what these carriages are capable of accomplishing can not be given than by an account of the Paris-Bordeaux race. Twenty-four horseless carriages, propelled by either petroleum or steam, together with four petroleum bicycles or tricycles started in this race. The carriages were of all descriptions and sizes, including those known as vis-a-vis, phaëton, victoria, and char-a-banc. The start was made from Paris on June 11. That there should be no unnecessary crowding, an interval of two minutes was allowed to elapse between the starting of each vehicle. The competitors' names, numbers, and their time of starting on June 11 (for the first six to reach Bordeaux, all it will be necessary to particularize) were:

No.	Owners.	Time of start from Paris.
15	Pengeot	12 noon.
8	do	12.04 p. m.
12	Roger	12.08 p. m.
5	Pachard & Levasseur	12.10 p. m.
16	Pengeot	12.20 p. m.
28	Pachard & Levasseur	12.48 p. m.

These six arrived in Bordeaux on June 12, in the following order:

No.	Owners.	Time of arrival at Bordeaux
5	Pachard & Levasseur	10.38 a.m.
15	Pengeot	2.10 p.m.
8	do	3.28 p.m.
16	do	5.23 p.m.
28	Pachard & Levasseur	7.20 p.m.
12	Roger	9.46 p.m.

The petroleum carriage No. 5, manufactured by Pachard & Levasseur, accomplished the distance—585 kilometers (363½ miles)—without accident in twenty-two hours twenty-eight minutes, traveling at the rate of 16.1 miles per hour. The same carriage made the return trip at the rate of 14.9 miles per hour. Under the conditions of the race, only four-seated carriages could compete for the first prize of 40,000 francs ($7,720); this was, therefore, secured by No. 16, owned by Pengeot fils, No. 5 taking second prize.

In this race, petroleum carriages proved their superiority over those to which steam furnished the motive power. Six petroleum carriages beat the fastest steam carriage by over 300 kilometers. The steam carriages, in addition to being defeated, met with more or less serious accidents en route, necessitating halts for repairs. There would seem to be no room for doubting the superiority of the petroleum-driven carriages.

In addition to the results obtained in the Paris-Bordeaux race, some particulars of pioneer traveling may prove of interest.

Hon. Evelyn Ellis gives the following account of a trip recently made by him in his diamler motor dogcart:

> This carriage has traveled by road from Paris, via Southampton, to Datchet, and from thence via Slough, Taplow, Marlow, Henley, Dorchester, Abingdon, Faringdon, Cirencester, Cheltenham, and Tewkesbury, to West Malvern and the Cotswold Hills. From West Malvern to Gloucester, a distance of 26 miles was done in two hours, the return journey occupying three hours, which included a climb of 800 feet in 4 miles. The rate of speed depends greatly on the level of the road, but more particularly on the amount of horse traffic encountered; for instance, one journey having taken two hours one day, the same was done in fifty-three minutes the following week. This was entirely due to horse traffic met on the road. Very early in the mornings and on Sunday 50 per cent more speed can be calculated on through the absence of horses.
>
> The cost of running from Datchet to West Malvern, a distance of 120 miles, was within 10s. ($2.40), including lubricating oils, grease, etc. This cost would have been much less if it had not been for the number of towns passed through, necessitating a slow speed, which consumes an equal amount of oil as if traveling 15 miles an hour. The Gloucester journey, including passing through the town, making 30 miles in all, cost 1s. 6d. (36 cents).
>
> The carriage being new in England, its effects on horses in this country is quite uncertain. It may meet from twenty to thirty horses who take no notice, while the thirty-first will shy. In going in the same direction, there has been no trouble at all. From Paris to Havre (120 to 130 miles), they had not to slow down once, the French horses being accustomed to it.

The following are faults found with horseless carriages as now constructed, which are true of some carriages, but it is hoped they may be soon overcome: The vibration caused by the machinery is often unpleasant. This objectional phase is perhaps inseparable from any motor working on the Otto cycle; the fact of only one stroke in four being effective, produces an irregular turning movement which leads to vibration, unless a very heavy fly wheel be used or several cylinders drive one shaft. Another objection is the unpleasant smell arising from the combustion of the petroleum.

The petroleum motor "Victoria," in France, invented by Mr. Roger, is named as one which has no unpleasant vibration. This motor works horizontally, and the trepidation is consequently much lessened. Vibration in horseless carriages is especially noticeable when the carriage is stopped and the engine is "racing." This is to be remedied in later improvements. It has been pointed out that, owing to the engine only taking five minutes to start again, it is not necessary to let the vibration continue, for if the carriage is stopped for any length of time it would be better to stop the engine itself and afterwards restart it.

The production of noiseless automatic carriages will doubtless be the work of the near future.

After the exhibition of the behavior and working of the carriages at the Tunbridge Wells exhibition, which was held in an inclosed grass field, the petroleum carriages were taken for a short run on the public road, where they did not appear to have the slightest effect in frightening horses, although the road was crowded with vehicles.

Horseless carriages are of two kinds—one driven by steam and the other by petroleum. Electricity has not yet been successfully used as a motive power in this connection, though frequently attempted. At present, an insurmountable difficulty seems to exist in its cost and difficulty of storage.

The first two classes mentioned—steam and petroleum—would scarcely ever experience trouble in procuring the fuel necessary to develop their motive power. Of the carriage propelled by electricity, this, unfortunately, can not be said. In this, lies one great superiority of the two former over the latter. Electricity as a motive power for these carriages, is, as yet, in an experimental state. It suffers from the drawback of requiring storage batteries, and these are heavy. That it will be a factor in the future success of the horseless carriage can not be doubted.

Germany has had horseless carriages for several years. There are a variety of kinds, using different systems, such as the "Benz," "Blessing," and "Michaelis." They have not, however, the speed or elegance of the French models.

In France, there are five or six leading makers—Pengeot, whose carriage No. 16 was successful in the Paris-Bordeaux race; De Dion & Bouton, Pachard & Levasseur, and others. The first named use a diamler motor (a German invention) in their carriages; the other two have their own systems. The carriage No. 16 is called a four-seated vis-a-vis (fig. 1). In appearance it is extremely light and elegant. Its weight is about 13 cwts. (1,456 pounds); length, 8 feet 3 inches; width, 4 feet 6 inches. It has 3¾ horsepower, and the cost, without extras, is 5,900 francs ($1,138.50). This carriage is four-seated and intended to carry four people. It is fitted with the diamler petroleum motor, and will run from 180 to 200 miles without recharging. Its average speed is 15 miles per hour on level ground. On an incline of 1 in 10, its speed is 4 miles per hour. The working cost is, on the average, 1 cent per mile. The diamler motor which this carriage uses is the most successful of this class, and several firms employ it. The carriages themselves all have the appearance of the various types of horse-drawn carriages, viz, brougham, victoria, phaëton, and others. The engine is stored away at the back or in front of the carriage, out of sight, according to the fancy of the maker. Benzine of a certain density, known in France as "essence de petrole," and costing about 22 cents per gallon, is the material employed to run the engines. The carriages barely exceed in weight their prototypes suitable for one or two horses, and the wheels are generally of the rubber-tire bicycle pattern. The petroleum engine is practically the same thing as the ordinary gas engine, the difference being that the petroleum is vaporized, and it is this gas which is employed in the cylinder in the place of the ordinary coal gas. The chief distinction between the motors employed for carriages and those so commonly seen in factories, etc., is in point of size and weight. Generally speaking, there are predominant principles which run through all classes of horseless carriages. The gearing consists either of cogwheels or chains, or a combination of both.

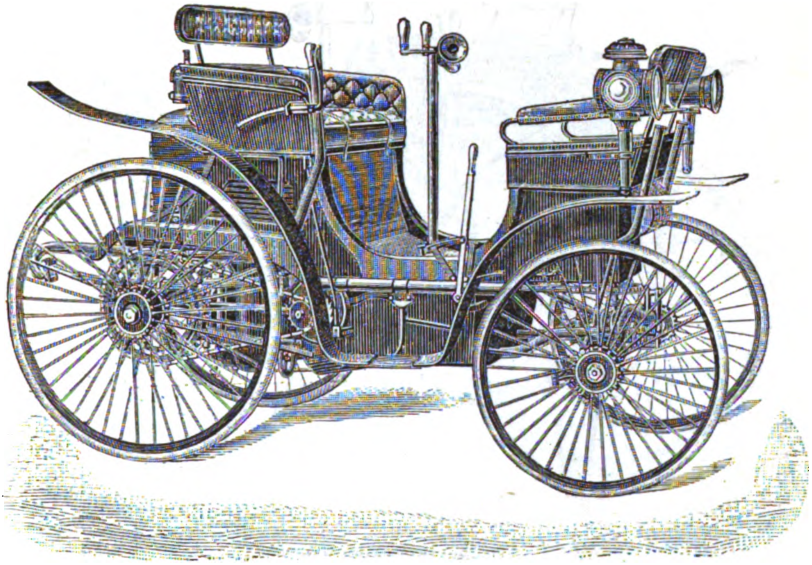

FIG. 1.—FOUR-SEATED VIS-A-VIS.

The vis-a-vis carriage has the back seat considerably raised above the double front seat which faces it. This carriage is like a double-seated victoria. The engine is placed at the back; the conductor sits on the back seat, and in front of him is a bicycle-shaped handle bar. The lever for stopping and regulating the speed is placed at his side. There is a handle by the conductor's seat for backing the carriage when necessary, and a foot lever for disconnecting the motor from the axle, which acts as a brake also. There is also a lever brake which performs several uses when required, such as detaching the engine from the carriage, putting the brake on the gear shaft, and also on both driving wheels. The 3¾-horsepower engine has 30 per cent margin of power. The benzine is allowed to pass through a main petroleum tank, into which 5 gallons of the liquid have been poured, and into a subsidiary vessel by means of a little pump. This subsidiary vessel supplies the fuel for the two burners, which keep the small platinum ignition tubes at a red heat. This having been accomplished, a pump, like a syringe, is put on the lamp vessel; all tubes having been closed, the pump is worked until the pressure reaches a certain point indicated by a gauge, then a little spirit of wine is poured into the cups, one of which surrounds each burner. This, when lighted, heats the burner, and, in the course of about two minutes, the valves may be turned on and the burners lighted. In the course of another half minute, the tubes are red-hot and the engine ready to start. Of course, all parts must be lubricated and all cups filled with oil before starting.

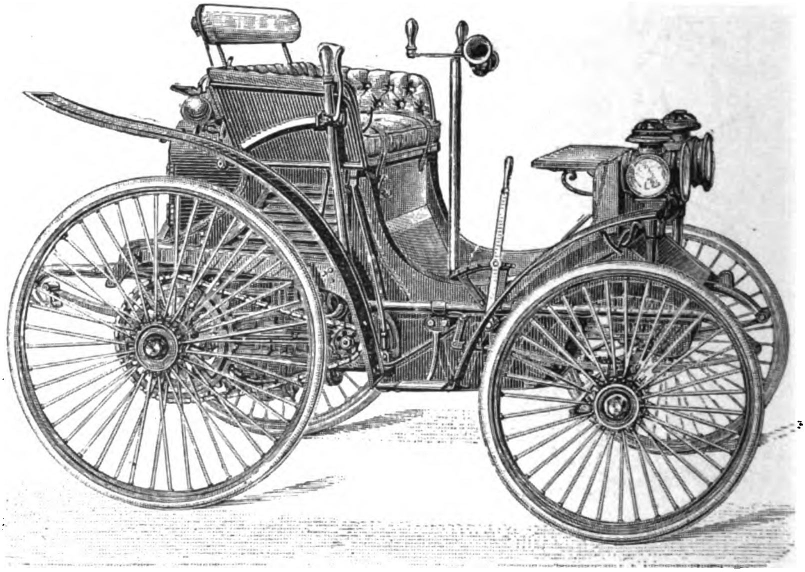

FIG. 2.—TWO-SEATED WAGON.

The engine is now ready; a handle is found behind with a suitable gear, and one turn should start the engine. Having accomplished this, the conductor mounts and starts on his journey. A very simple arrangement for steering has been adopted. The planes of the two leading wheels move to the right or left at the end of a bar, so that it is far easier to guide these carriages than if the ordinary method had been adopted, and these wheels being completely independent of each other, each wheel takes its own speed in rounding a curve. In order that the hind wheels may do the same, there is a compensating gear situated on the back axle, enabling one wheel to travel faster than the other, when necessary.

The water for keeping the cylinders cool circulates through the framework of the carriage, which is tubular. About 8 gallons of water is sufficient for the purpose; it must be renewed as it is evaporated.

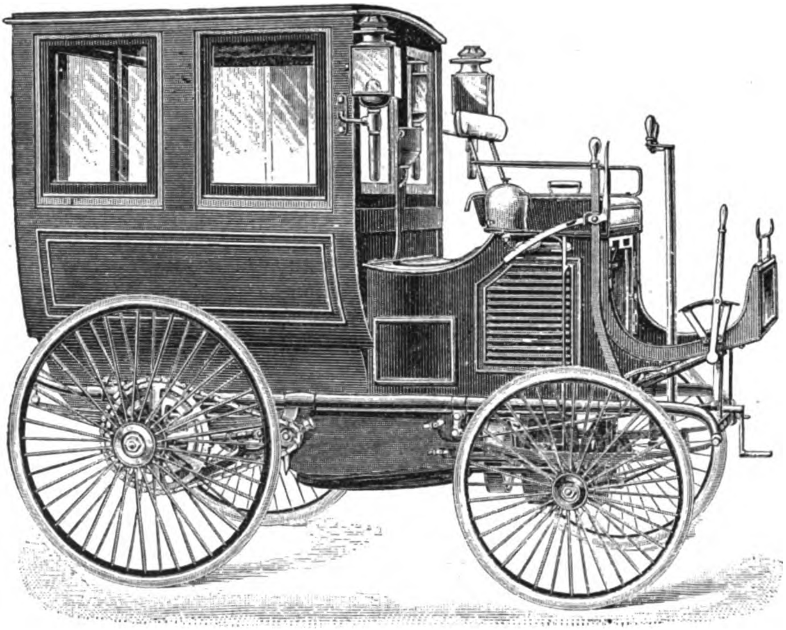

FIG. 3.—FIVE-SEATED OMNIBUS.

The "essence de petrole," which is the fuel employed in this carriage, is about 700 per cent, and can be procured of any grocer or oil dealer. It is carried in a reservoir holding from 15 to 30 liters (15.8 to 31.7 quarts) depending on the type or size of the carriage. This firm manufacture several styles of carriages, from a two-seated wagon of 2½ horsepower (fig. 2), costing 5,000 francs ($965), to phaëtons, victorias, and omnibuses; the latter, carrying five persons, and having 3¾ horsepower, cost 7,500 francs ($1,447.50). The omnibus (fig. 3) would seem to be admirably adapted for hotel use.

Messrs. De Dion & Bouton manufacture, in addition to petroleum carriages, petroleum tricylces and a steam tug, or "boggie," both built on their own system. The tricycles are in appearance like an ordinary tricycle, the motive machinery, which is on the axle, taking up very little space. They are worked with petroleum motors, with electric-spark ignition. They have ordinary pedals and gearing, which may be used independently of, or in connection with, the motor, or the motor may be used alone to drive them. One charge will last about six hours, at a cost of less than 2 cents per mile. This machine (fig. 4) weighs about 90 pounds and costs 1,300 francs ($250).

The rider mounts his tricycle in the usual way, and finds before him four little handles; one regulates the amount of petroleum that should pass the cylinder, the second the proper moment for the ignition of the gas (the right position of these two handles gives the best efficiency), the third handle is for gearing and ungearing the pedals (in future tricycles this will be dispensed with), and the fourth adjustment is simply a switch for turning on the current from the battery for producing the spark by means of an induction coil.

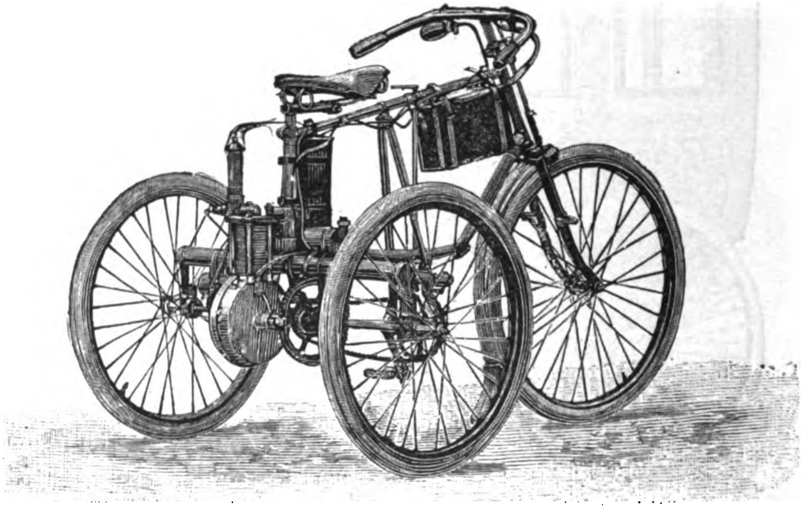

FIG. 4.—PETROLEUM TRICYCLE.

The bicycle, as at present made, can not be recommended—it is too cumbersome; but the tricycles manufactured by De Dion & Bouton are practical vehicles. Many of these tricycles are now in use in France. Another tricycle (using mineral naphtha as fuel) is manufactured by the Gladiator Cycle Company, of France.

The "Boggie," or steam tug (fig. 5), may be attached to any carriage or omnibus and then run at a speed of 25 miles per hour. Its motive power is a two-cylinder, triple-expansion engine producing 20 to 30 horsepower. The engine is fed by one of De Dion & Bouton's patent boilers. One handle only is used to start and back the machine. Coke is the fuel used, a quantity sufficient for a journey of 80 miles being carried in the front part of the machine. The water tank is in the rear, under the conductor's seat; enough can be carried for a journey of 35 miles. It gets up steam very

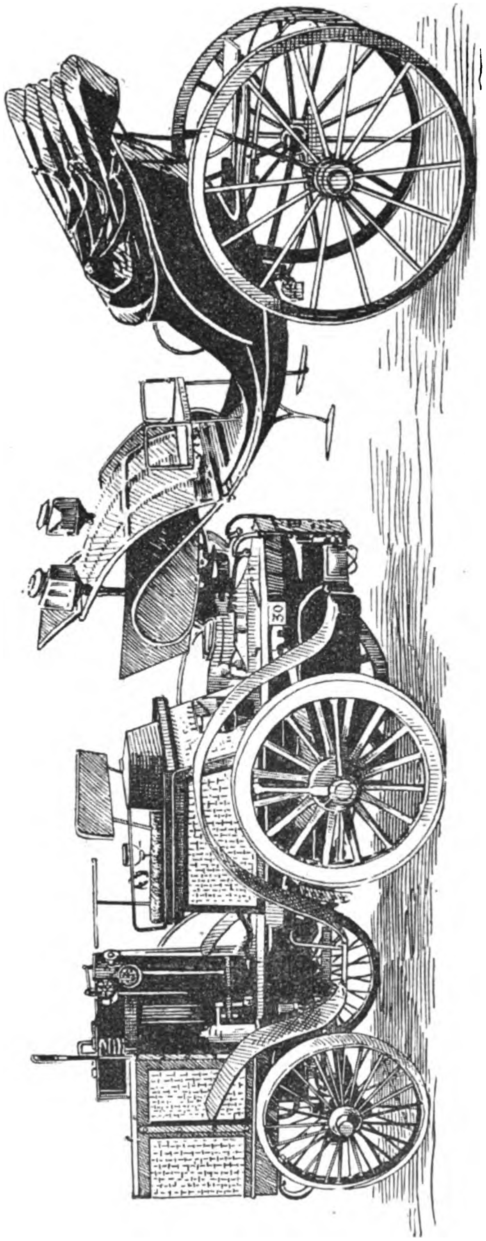

FIG. 5.—MESSRS. DE DION & BOUTON'S "BOGGIE."

quickly, only fifteen minutes being necessary. The cost of running is about 2 cents per mile. The cost of the "Boggie" varies from 13,000 to 14,000 francs ($2,500 to $2,700), according to the weight designed to carry.

Messrs. De Dion & Bouton manufacture a petroleum carriage, driven by an "Equilibre" motor, for which they claim the advantage that no shaking is apparent. The force is transmitted to the wheel without the use of chains. It attains a speed as high as 30 kilometers (18.64 miles) per hour and can travel 300 kilometers (186.4 miles) without recharging. This firm is about to introduce petroleum bicycles and tandems.

Messrs. Benz & Co., of Mannheim, are the oldest and best-known German manufacturers of horseless carriages. They use a benzine motor of their own patent, and manufacture carriages of many styles, from a two-seated "motor velociped" of 1½ horsepower to a hotel omnibus (fig. 6) of 5 horsepower, capable of carrying eight persons.

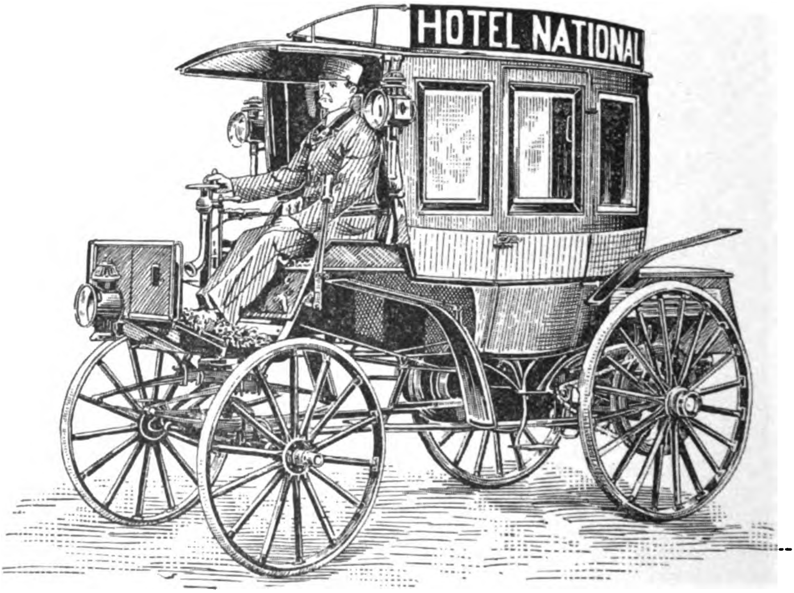

FIG. 6.—BENZ PATENT MOTOR OMNIBUS.

The Benz patent wagons attain a speed of 20 kilometers (12.43 miles) per hour on perfect roads. The horseless carriage winning fourth prize in the Paris-Bordeaux race used a Benz motor. These carriages use 2 kilograms of benzine per hour, at a cost of less than 1 cent, and can make a journey of 80 to 100 miles without recharging the reservoir.

H. Michaelis, of Chemnitz, Saxony, manufactures wagons with steam power, designed principally for the transporting of great weights. These have a carrying power of from 5,500 to 22,000 pounds. In addition to these wagons, this manufacturer makes a steam omnibus, which is in use in the suburbs of some German cities. He has a Government concession for passenger traffic between Dresden and Weisserhirsch. In making this trip, a steep hill must be ascended, where formerly a cable railway was required.

Sir David Salomons, before mentioned, has written an interesting article on the probable results of the use of horseless carriages. After alluding to what many would describe as a "new craze," the development of the "voiture automobile" in France, he mentions the fact that it was due to the enterprise and energy of Mr. Pierre Giffard, one of the chief editors of the Petit Journal and editor of Le Velo, that cycling was introduced into France, with results far exceeding the expectations of the founders of the movement. The impetus was given by the Petit Journal offering a handsome prize for a cycle race; and, last year, the same journal acted in a similar way with respect to the horseless carriages, the race being from Paris to Bordeaux and back.

From that moment, the attention of thousands was turned to this class of vehicle and all were surprised to find how blind they had been to the advantages afforded by their general use. There is to be another competition for prizes in the summer of 1896, when it is to be hoped there will be some American horseless carriages entered. Although the details are not yet settled, the premiums will, probably, be offered in three classes—(1) for a race, (2) for the most practical carriage, and (3) for the most elegant one.

Speaking of the probable results, Sir David takes a very optimistic view:

> The results which may be anticipated from a large development of horseless carriages, carts, wagons, and other vehicles is a question so large that it can only be briefly discussed.

After considering the merits of the new vehicles from many sides, at too great a length to be here reproduced, he comes to the professional man:

> Take, as an instance, the doctor. He must keep one, two, or three horses, according to the nature of the district he has to traverse. He must have a coachman and stalls for his horses. It is needless to point out the advantage of the horseless carriage to such a man. The coachman would be replaced by an intelligent lad, who would attend to cleaning the carriage. The struggle for life, which is a serious matter with the new practitioner, would cease, and the £100 or so saved would render his lot a far less anxious one.

In regard to the danger connected with the use of petroleum in these carriages, not a single serious accident has been reported. It is claimed there is no more danger in charging the motor than in filling an ordinary lamp.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *November 14, 1895.*

AMERICAN TRADE VIA THE MANCHESTER SHIP CANAL.

It is gratifying to report the arrival at Manchester, by the Manchester Ship Canal, during the three months just ended, of 67,389 bales of cotton from the United States, this being a greater quantity than arrived during the entire two years ended January 1, 1896, during which the canal has been open. The following is the list of vessels, date of arrivals, tonnage, and cargo during the first three months of 1896:

Name.	Date.	Tons.	Whence.	Cargo.
Capenor	Jan. 3	1,651	Galveston	7,200 bales of cotton.
Cothele	Jan. 7	1,715	New Orleans	4,019 bales of cotton and 67,000 bushels of corn.
Saturnina	Jan. 24	1,826	Galveston	6,049 bales of cotton.
Niceto	Jan. 30	1,830	do	5,679 bales of cotton.
Ernesto	Feb. 5	1,690	New Orleans	5,224 bales of cotton and 43,000 bushels of grain.
City of Belfast	Feb. 26	1,415	Galveston	3,900 bales of cotton and 42,857 bushels of corn.
Guido	Feb. 27	2,064	New Orleans	3,824 bales of cotton and 86,000 bushels of corn.
Wooler	Mar. 14	1,548	Galveston	5,212 bales of cotton and 34,285 bushels of corn.
Daniel	Mar. 18	1,388	New Orleans	5,742 bales of cotton and 500 cases of canned beef.
Hampton	Mar. 23	1,383	Galveston	3,809 bales of cotton and 5,000 quarters of corn.
Rose Castle	Mar. 25	1,775	do	6,337 bales of cotton and 5,000 quarters of corn.
Capenor	Mar. 30	1,651	do	7,318 bales of cotton.

The following figures show the total arrivals of cotton during the first quarter of 1896, as compared with the arrivals during the whole of the years 1894 and 1895:

	Bales.	Bales.
January, February, and March, 1896		64,313
Year 1894	35,555	
Year 1895	28,094	
		63,649
Excess over 1894 and 1895		664
Odd lots from New York		3,076
Total excess		3,740

Besides the foregoing, the nine under-mentioned vessels and cargoes arrived from the United States in the past three months:

Name.	Date.	Tons.	Whence.	Cargo.
River Thames	Jan. 9	454	Savannah, Ga.	3,140 barrels of resin.
Biela	Jan. 14	1,374	New York	Oil and assorted cargo.
Burton	Jan. 24	1,271	Boston	8,703 quarters of corn and 1,000 sacks of flour, etc.
Nasmyth	Jan. 29	1,230	New York	3,000 barrels of oil and assorted cargo.
Nor		498	Wilmington	4,084 barrels of resin and 200 barrels of turpentine.
Apex	Feb. 1	1,477	Newport News.	100,000 bushels of oats, 42,863 bushels of maize, etc.
Sirius	Feb. 5	1,372	New York	Lard, starch, etc., and 560 bales of cotton.
Lassell	Feb. 15	1,173	do	Lard, starch, etc., and 758 bales of cotton.
Cuvier	Mar. 7	1,451	do	Flour, oil, etc., and 1,758 bales of cotton.

It seems there is now more ground for hope that the shipment of our meats and food products direct to Manchester by the ship canal will increase materially within a short time; first, because the burden of the completion of the canal and the auxiliary works now falls wholly upon the city, *i. e.*, the ratepayers, and as the rates are already reckoned somewhere about 25 per cent of the rentals, and already 2s. more to the pound added to the present rates is in sight (and as yet the ship canal can not earn its working expenses, and nearly £500,000 of overdue interest totally unprovided for) and as many expensive aids to the working of the canal have yet to be finished and paid for, the great Manchester merchants and warehousemen will nearly all of them become advocates for business for the canal, and, secondly, the "lairages," as the Manchester corporation calls the abattoirs, or the "foreign animals wharf," as the Manchester Ship Canal terms the buildings and inclosure for the receipt, rest, and slaughter of cattle from the United States, are ready. The completion of the whole inclosure is now promised during the coming month (May). The ship canal company say:

> The site secured is 12 acres in extent, with a frontage to the canal of about 800 feet, and 850 feet to a road 20 yards wide, which will be a continuation of the existing road along Trafford wharf. This site is particularly well suited to the purpose in view, being away from the bustle of general business, and having at the same time the advantage of direct and convenient approach. Plans for a complete depot, embodying the most modern arrangements, to accommodate 3,000 head of cattle have been prepared in the city surveyor's department and approved by the board of agriculture. In order to get this depot at work as soon as possible, the scheme has been divided, and provision for 1,000 head of cattle, with pens, hay store, wharf, etc., has been proceeded with and will be ready for business shortly.
>
> There will be a continuous landing stage, whereon cattle may be discharged by means of movable gangways at any desired point, from which jetties will extend for the mooring of vessels. The canal at this point is 300 feet wide. The appliances will include machinery for refrigerating, for electric lighting, pumping, etc., and railway sidings and roadways will be constructed communicating with the various parts of the depot. A cattle auction salesroom will occupy a convenient position near the "lairages."
>
> By the completion of these buildings, a diversion of a part of the great American cattle and provision trade to Manchester will be rendered practicable.

At the same time—some three weeks since—the canal company gave me the following more particular information regarding the "cold stores:"

> The cold stores constitute a very important addition to the equipment of Manchester as the largest center for food distribution in the United Kingdom. This is the second of the three most essential pieces of work supplementing the canal which have been undertaken by the Manchester corporation.
>
> The cold stores and chill rooms are for the reception of meat, butter, fish, and other perishable articles from the colonies and North and South America, and form a substantial block of buildings 130 feet by 120 feet and 75 feet high, with basement, ground, and three upper floors. Weighing machines, lifting gear, stages, roadways, tramways, overhead rails and runners, hydraulic lifts capable of conveying specially constructed wagons, laden, to any floor, along which they can be moved to and from any of the chambers, are among the appliances, all being of the most modern and advanced type. There is water connection with the docks for barges, the principal railway depots are in the immediate neighborhood, a series of offices are included for firms doing business at the stores regularly, and a complete system of electric lighting is established.
>
> All the machinery is in duplicate, and is effectually divided off from the main building so as in no way to affect the air, which can be cleansed, cooled, or renewed in all or any of the chambers every five minutes if required. Electric indicators fixed in the manager's office show the temperature of each chamber. The capacity is sufficient to accommodate 120,000 sheep, or, of course, any other goods up to that extent. The ground floor is 13 feet high, in order to allow for the hanging of sides of beef, and the other floors are 9 feet high. There are three hydraulic elevators, each capable of lifting 600 sheep per hour. With all the machinery going, between 5,000 and 6,000 sheep per hour could be received or delivered.

The accommodation includes provision for chilling 1,200 sides of beef in twenty-four hours.

From the foregoing facts and quotations, the prospects of a more general and an increased business from the United States direct to Manchester by the ship canal seems assured.

WILLIAM F. GRINNELL,
Consul

MANCHESTER, *April 15, 1896*.

MANCHESTER CANAL TRAFFIC IN 1895.

In a previous report, dated January 17, 1896, Consul Grinnell said:

I regret to report that only the small cross channel boats, voyaging between countries contiguous to this, carry full cargoes. The efforts referred to in my dispatch of January 31, 1895, have proved nearly fruitless. The ship canal management held meetings and addressed circulars to shipowners and charter parties trading with the Levant and the far East, as India, China, and the Straits, offering some advantages and making concessions in several directions to induce the large vessels in that trade to come up the canal to Manchester to obtain cargo. The result has been very disappointing; the few vessels which were sent up could only obtain a portion of a cargo and were obliged to go elsewhere to complete the lading. About the same result has attended the South American shipments.

Although during the year 1895 merchandise was sent from Manchester to the United States to the declared value of $14,156,414.54, yet not one package, I believe, has been shipped direct to New York or other port since the canal opened on January 1, 1894. Distinctly favorable opportunities have recently occurred for such shipment. Two freight steamers, obliged by their charters, left here, one for New York direct in November last, the other via Hampton Roads in December. They were the *Finsbury*, 1,174 tons, and the *City of Worcester*, 1,552 tons, but each sailed in ballast. I was informed by the captains that every effort practicable was made to obtain freight—offers to take it 25 per cent below rates current, to delay sailing still further, etc.—but all in vain, for both left in sand and water ballast.

DECREASE OF BRADFORD EXPORTS TO THE UNITED STATES.

The remarkable falling off in the exports from this consular district to the United States during the past four months has occasioned no little surprise among the trading community here, particularly as each successive month has eclipsed its predecessor in the extent of decrease. Although a decrease had naturally been anticipated, seeing that the shipments to the United States last year were of an abnormal character, it was not thought that it would be of such excessive proportions as has now become apparent. The prevalent idea was that business might resolve itself into a normal condition and a moderate amount of trade be done between this district and the United States.

The decrease is most noticeable in the month just closed (May), which shows a falling off of $1,703,502.08, equivalent to 70 per cent, while as recently as January there was an increase of $489,932.63, equivalent to 21 per cent.

The following table gives the total exports during the past four months, compared with the corresponding period of 1895:

Month.	1896.	1895.	Decrease.
February	$1,876,416.66	$2,124,195.95	$247,779.27
March	1,518,801.08	2,392,309.83	873,508.74
April	983,900.04	1,939,643.92	955,743.87
May	712,013.67	2,415,515.75	1,703,502.08

It will be seen that February shows a decrease of 12 per cent, March a decrease of 36 per cent, April a decrease of 50 per cent, and May a decrease of 70 per cent. A falling off such as that in the latter month has not heretofore been chronicled in the history of this consulate. The nearest approach thereto was in June, 1891, when there was a decrease compared with the preceding year of $1,683,685.97. As showing the extreme fluctuations which have characterized Bradford trade with the United States within a very short period, viz, nine months, it may be mentioned that the largest increase ever shown was in the month of August, 1895, when the total gain was $2,371,393.91.

The principal item affected during the last four months has been worsted coatings for men's wear, closely followed by stuffs, comprising linings, dress goods, etc. The former shows a decrease of $1,460,860, or 53 per cent, and the latter $1,343,710.04, or 44 per cent. Cotton goods is credited with a decrease of $179,455, equivalent to 38 per cent. A noticeable exception to the general trend is in woolens, which only show a decrease of 2½ per cent.

The foregoing represent the bulk of the textile manufactures. In wool, there is a decrease of $506,330, equivalent to 62 per cent.

A special item of interest will be found in machinery. While in all the other articles of note there is a decrease, the shipments of machinery have increased to the extent of $63,965, equivalent to 52 per cent.

The following table shows the totals of the several articles above alluded to for the past four months, together with the corresponding period of 1895:

Articles.	1896.	1895.	Increase.	Decrease.
Worsted coatings	$1,280,084	$2,740,949		$1,460,865
Stuffs	1,723,052	3,066,766		1,343,714
Woolen goods	709,496	727,974		18,478
Cotton goods	283,639	463,096		179,457
Wool	301,469	807,800		506,331
Machinery	185,223	121,258	$63,965	

I am credibly informed that all of the mills which have been engaged in manufacturing largely for the American trade are now either running on short time or have a large proportion of their looms idle. One of the most important factories is working four days a week. A large percentage of spinners, weavers, combers, sorters, warehousemen, and working men and women engaged in allied industries are out of employment. Of the 1,000 wool sorters in Bradford, 700 are now without work, and have been for three or four months. This fact has been commented upon in the public press and parents have been warned not to apprentice their boys in a branch of trade that was once very remunerative. The distress and discontent among the laboring classes have been augmented by a number of heavy failures in the wool trade, especially among top makers and wool combers. In the face of the decline of demand from the United States and the falling prices of raw material, it is but natural there should be a falling off also in the price of finished goods. Worsted coatings can now be purchased for the American market at a decline of 7½ per cent below the prices of January of this year. Woolen goods (such as curls, beavers, overcoatings, ladies' jackets, etc.) at 2½ per cent less, and stuff goods, including linings and ladies' dress goods, at 10 per cent less than the prices at which they could be purchased at the first of the year. Bradford-made cotton goods have not fallen off at all.

Perhaps this depression and falling off in exports to the United States from the Bradford consular district are responsible in a measure for the recent effort to popularize dress goods manufactured here instead of the stuffs of Germany and France, which fashionable ladies generally prefer. One of the Bradford representatives in Parliament, taking into consideration the present industrial conditions, arranged for a large number of samples of English dress goods to be sent to the Princess of Wales for selections to be made for the trousseau of one of the young princesses, who is soon to be married. The mayor of Bradford, with considerable ceremony, invited half a score of Bradford firms to submit samples of their dress fabrics at the Town Hall. A special messenger then took the case containing the samples to London, where it was delivered to Gen. Stanley Clarke, private secretary to the Princess of Wales, who expressed herself as being "much struck" with the beauty and finish of the samples and with their infinite variety. After the fabrics have been inspected at Marlborough House, the member of Parliament for central Bradford, James Leslie Wanklyn, esq., will invite the editors of the leading trade journals and journals of fashion to inspect them at his chambers. A local paper expresses the hope that all these circumstances combined may "serve to remove the foolish or contemptible prejudices" existing in Great Britain against the products of their own looms.

Good will come out of evil, they argue, if present hard times are instrumental in diffusing among the ladies of the United Kingdom the knowledge that there are produced here at home (in Yorkshire) stuffs of wool, silk, cotton, mohair, alpaca, camel's hair, etc., that in genuine merit, as well as in design and finish, are superior to anything the German or the Frenchman can make. It is recalled that once before fashion turned her capricious head toward Bradford when the Lady Bective took up and advocated luster goods. As though accentuating the royal favor shown the district, and to turn the popular mind in this direction, the Queen has recently given an order to some old persons in the district who still turn out goods from hand looms in their cottages in the ancient way.

In the meantime, a considerable quantity of American wool has come into this market for sale, but owing to the conditions above described, has not met with a very favorable reception. Four hundred packs, or 100,000 pounds, of fleece-washed wool, said to be from Ohio, fetched 18 cents per pound, though 23 cents was asked for it. One hundred packs, or about 25,000 pounds, of unwashed realized 14 cents per pound. All were described as "quarter-blood" wools. A large quantity, aggregating several hundred thousand pounds, of Dakota, Montana, Washington, Wyoming, and Iowa wools were sent over for sale, but the prices offered being unsatisfactory, they were returned to the United States. A big consignment of Australian skin wool sent over from Boston found a ready sale at a fair price, the state of the market being taken into consideration.

American wool does not take well at present in this market because combers, spinners, etc., are not accustomed to manipulating it and it is not considered well suited for the staple fabrics of the district. The large amount of waste in it is also complained of.

A large quantity of United States wool is now stored in the warehouses of the Midland Railway Company in this city awaiting a favorable opportunity for marketing.

The new clip of English wool has not yet come on the market to any extent. The farmers will not accept prices offered by wool buyers, but are holding back in anticipation of a rise.

CLAUDE MEEKER,
Consul.

BRADFORD, *June 12, 1896.*

INCREASED TRADE BETWEEN THE UNITED STATES AND PERU.

I have the honor to transmit herewith the copy and translation of an editorial from El Comercio, of Lima, of May 16, discussing the increasing trade between the United States and Peru. El Comercio attributes this to the direct steamship communication now existing between New York and the west coast of South America, by which material reductions in freights have been effected. The article also advocates the establishment of American steamship lines between San Francisco, Valparaiso, and intermediate ports, and between New York or New Orleans and the Amazonian region of Peru.

LEON JASTREMSKI,
Consul.

CALLAO, *May 29, 1896.*

[Translation from El Comercio, of Lima, May 16, 1896.]

During the week ending to-day, the first vessel of the West Coast Line, inaugurating steam traffic between New York and the principal ports of Chile and Peru, left Callao on her return voyage to New York.

Until the present time, this company has carried on trade with sailing vessels, but it proposes henceforth to send out a cargo steamer regularly every two months from New York to Callao.

It has been but two years since the New York and Pacific Steamship Company, better known as the Merchants' Line, opened a regular steamship trade between New York and the principal ports on the Pacific coast of South America, and now comes a competing company to divide the proceeds of this trade and to afford to these countries a new line of communication with the United States.

We could cite but few examples that would more conclusively demonstrate the powerful influence which steam exercises in promoting trade than that given by the latter company in opening a route practically creating a new direct communication with the eastern part of the United States. In starting, it had but three vessels, but later, it sent out a vessel every forty days. Now, it has five and the departures are every twenty-five days.

This is not all that is notable in estimating the accruing benefits. Prior to the existence of this line of steamers, our trade with the United States had to go by the Panama route, where it was subjected to the overcharges and burdens occasioned by this reshipment through the Isthmus. The freight from all our ports, per ton of 2,000 pounds, was $25 for ores and coffee, $48 for coca, $35 for common wool, $40 for alpaca, and $22 and $25, respectively, for the goatskins and cotton shipped from Paita.

It will be readily seen that with freights ranging from £5 to £6 per English ton, it was impossible for our trade with the United States to acquire any importance. Consequently, the shipments were confined to some cotton from Piura, some skins and hides, and a few bales of coca leaves and sacks of coffee. This forced the mercantile interests in the United States to go to Liverpool for the products of Peru, such as the fine wools required to mix with others in the manufacture of certain textures, the thought of importing directly from Peru being unrealizable. Now that freights on wools have been reduced to £3 5s., with a likelihood that the competition will bring still greater reductions, direct shipments to the United States have become important, particularly since ordinary wools realize 1 penny more there than on the Liverpool market.

It will be observed that the simple reduction of freights, caused by the establishment of a regular line of steamers, has opened a new and better market for the principal products of this country.

For the same reason, our national mining industry has been equally benefited. The crude ores that used to pay £5 1s. 2d. now pay but £1 1s. 2d., and the quantities going directly to the North American smelting works are considerable. The cottons from Ica, that were exported exclusively to England and France, go likewise to New York. The shipment of coffee and coca to the United States, with freights reduced to £3 1s. 4d. and £3 1s. 2d., are growing in importance. The same may be said of the cotton and goatskins from Paita, which now pay £2 less per ton. Shipments of cacao, cascarilla, and balsams have also commenced, and with a regularity equal to the departure of the steamers from the port of Mollendo, lots of caoutchouc from the mountains of Sandia, Cuzco, and the Madre de Dios are going the same way.

But a few months have sufficed to produce this important evolution in our commercial system and to divert a goodly part of Peruvian products from the old route to Europe to the new one to the United States—a nation with which, for various reasons, it is advisable for us to extend our commercial and friendly relations.

It is rational to presume that similar changes will be experienced in the export trade from New York to Peru, owing to the existence of the two navigation companies referred to, and that the original mode of sending merchandise from New York to Peru by way of Liverpool will be abandoned—which, though it crossed the Atlantic twice, paid less freight than by former direct shipments from the United States to Peru.

With reference to the last official commission created by the United States to investigate and report upon the best means to promote commercial intercourse between that Republic and those of South America, we expressed the opinion that the objects in view could only be attained by the establishment of a steamship line that would offer cheaper freights for the exportation of Peruvian products to the great markets of the United States.

Governed as they are by cable, the actual needs of commerce require regular steam service, as they can no longer be met by sailing vessels. Lower rates of interest, lower insurance, the arrival and departure of merchandise at precise dates, are advantages indispensable to commerce which steam alone gives and which go practically to reduce freights.

In view of the favorable results which have already flowed from the establishment of the Merchants' Line, it would be advisable to think about establishing other lines between the United States and Peru. The most useful, perhaps, would be a line between San Francisco, Valparaiso, and intermediate ports of the west coast of South America and another from New York or New Orleans to the Amazonian region of Peru.

Mr. Jastremski, the American consul at Callao, has called the attention of his Government to the first route, for the benefit particularly of the wheat growers of the Pacific States of the great northern Republic. Indeed, the importation of wheat and flour to this country fluctuates annually from 35,000 to 40,000 tons, and well might this volume of breadstuffs give material assistance to the traffic between the States referred to and our own country.

With reference to the second route, we may assert that the commerce of the Amazonian region of Peru is increasing daily. Nearly all the carrying trade there is in the hands of the powerful English navigation company, which, with its sixty steamers of various dimensions, maintains, without reshipments, a traffic between Liverpool and Manaos. The readers of El Comercio have been informed in this connection that Mr. Charles Mouraille has recently inaugurated, with the steamer *Huascar*, a new line between Havre and Iquitos.

Our Government can not fail to perceive the great influence that the development of the resources of its Amazonian regions will exercise in the economic progress of the country, and we assume that the Government will endeavor to induce that of the United States to lend its powerful aid in the formation of a steamship company that will establish regular communication between the Eastern ports of the great Republic and the ports of the deep, virgin tributaries of the Amazon. It can not be doubted that the profits of such an enterprise would go on increasing proportionately with the increasing extraction of the immense quantities of rich products which are lost for the mere want of transportation to the markets where they command the good prices awaiting them.

PURIFICATION OF WATER BY METALLIC IRON.

In the United States, comparatively few efforts have been made to secure proper water supplies. Thus far, not more than one-third of the towns and cities have made any effort to insure wholesome drinking water; the remainder either confess indifference or ignorance of the subject. In other words, more than one-half of the people in the United States are living in total disregard as to whether they are drinking pure or contaminated water. Spasmodic efforts are made now and then to open the way to the desideratum by asking Congress or State legislatures to provide legal protection against the fouling of public waterways—a scheme which, in our vast country, where rivers traverse several States, would seem to be impracticable. What law, for example, can Congress enact to remove the sources of deleterious impurities which find their way into the Potomac River without interdicting industries or agricultural operations on or near the banks of the river and its numerous tributaries—wastes from factories, washings from farmyards, drainage from villages, towns, and cultivated fields laden with the microbes of various fertilizers? It is well enough to inculcate the doctrine of "rainfall to the river and sewage to the soil," but in order to reach the river, the rainfall must pass over or through the soil, and in doing so, it necessarily carries with it an appreciable quantity of filth which contaminates and renders unfit for domestic uses the waters of the streams.

What, then, can be done to make these waters of disease and death living waters of health? London (where 4 out of every 1,000 people in the world live), not many years ago, had a fearful experience from the consumption of water furnished by the Thames and fouled by filth which found its way into the river above the sources of supply. The operation of the "pollution of rivers act" did not alone succeed in correcting the evil; but sand filtration of the entire water supply, before it entered the city, proved an efficient safeguard against disease-bearing germs, and has given the city not only absolute immunity from cholera, but has greatly reduced typhoid, and London is to-day the healthiest city in the world. This process, then, may be said to answer well for Thames water, protected as it is by the strictest sanitary surveillance; but where microscopic organisms of a dangerous character exist in the water in large quantities, it has been found quite impossible to bring such water to a pure or potable condition simply by sand filtration, which is now supplemented in many continental cities by first agitating the water to be purified with bits of metallic iron, and then passing it through sand filters.

This process was suggested about ten years ago by Sir Frederick Abel, and was first practically applied at Antwerp, where foul water, drawn from a source little better than a sewer, has been converted into a drinking water—bright, clear, and wholesome; and this explains why Antwerp has been so free from epidemics of cholera and other diseases since these works have been in operation. This method of purifying water can no longer be considered in the experimental stage; it has been installed in some of the important cities of Holland, France, Turkey, and India, and has been recommended for improving the water supply of Florence, Italy, by Sir Douglas Galton, the eminent English engineer and sanitarian. While it can not be said that the process gives a perfect water, it certainly gives one which is wholesome, as has been shown in many continental towns.

When the process was first introduced at Antwerp, its original birthplace, by Dr. Anderson, who designed the mechanical appliances for agitating the water with scraps of iron, it was considered that the iron had a more or less pronounced chemical action upon the dissolved organic impurities of the water, but it now seems that the real action is one of coagulation, the formation of a precipitate in the water tending to throw out of solution the dissolved organic substances, and this view of the process applies equally well to its action upon microbes, which become entangled in the gelatinous precipitate, and either subside with it to the bottom of the settling tank or remain behind on the surface of the sand filter through which the water is passed.

After being agitated with the metallic iron, Dr. Dupré examined water where there was only sand filtration and found the microbes were from 1,300 to 3,000 per cubic centimeter, but directly the iron process was applied, the number sank to 100; they very rarely exceeded that, and, sometimes, went down as low as 5. The effect of filtration of water by this process is not so much to remove chemical substances as to remove microbes. It is true that water may be foul and objectionable irrespective of microbes, but the main advantage of the iron process is that it removes the microbes so completely. Dr. Dupré says:

> This can only be done by very perfect sand filtration at the rate of 4 inches per hour, but if the rate is varied by half an inch per hour, or an inch, the whole process breaks down, and you jump at once into hundreds of microbes. With the iron process, you may vary the rate from 4 inches to 20 inches without apparently affecting the numbers at all. The film of iron which is formed is such a perfect medium that even continued disturbances in the rate does not seem to affect the result.

The apparatus for purifying the water is a hollow cylinder, either of cast iron or built up of plates like a boiler, supported horizontally upon hollow trunnions, through one of which the water to be purified enters; after traversing the cylinder, it leaves by the other trunnion. The cylinder is caused to rotate about its axis by means of a gearing, which is driven in any convenient way. Fixed inside the shell of the cylinder, and running longitudinally are six shelves, five of which are curved in the direction of the motion of the cylinder. The sixth shelf is not curved, but is formed of a number of square flat plates arranged en échelon to insure a more continuous and regular action of the apparatus.

The cylinder is charged with a certain quantity of metallic iron, according to size—a purifier capable of treating 1,000,000 gallons of water in twenty-four hours requiring a charge of 2 tons or more. The iron may be in any convenient form, but that most commonly employed in practice is burrs or punchings from plates. Cast-iron borings are very efficient, and, weight for weight, much cheaper. The charge of iron, in whatever form, is spread evenly along the bottom of the cylinder before commencing the work.

The water, on first entering the cylinder, strikes against a circular baffle plate, which directs the stream toward the shell and prevents it from passing through axially. As the cylinder rotates, the curved shelves scoop up the charge of iron and shower it down through the water as they reach the top, thus causing a constant falling of the iron across the current of the water. Practically, it is a process by which the iron is filtered through the water. The outlet pipe terminates inside the cylinder in an inverted bell or hood, coming as low down as the shelves will permit. The object of this contrivance is to prevent any iron from being carried out of the cylinder by the current. The revolving purifiers are made in fourteen sizes, distinguished by the diameter of their inlet pipes, from 1 to 14 inches. In large installations, batteries of purifiers are employed, placed side by side, very frequently all discharging into a common outlet tank.

Mr. Anderson, who has presented a considerable mass of evidence showing the value of the process for the purification of water supplies, states that the effect of the agitation with iron upon the water is simply to cause a small quantity of iron—from one-tenth to one-fifth of a grain per gallon—to be dissolved, or, rather, held in solution, in the form of ferrous hydrate, which quickly changes under the influence of the air to ferric hydrate, which is precipitated in particles more or less coarse, according to the nature of the water to be treated. At Antwerp and other places, where the earliest applications of the process were made, a tank or reservoir existed before the purifiers were applied, and was consequently utilized. In more recent plants, where the works have been designed specially for the process, the expensive settling tank has been replaced by a trough or flume, along which the water runs on its way to the filters.

From the settling arrangement, the water passes on to the filters, which are sand beds of ordinary construction and call for no particular remark, except that the sand need be neither specially fine nor of great depth. Through the filters, the water passes at the rate of 80 to 100 gallons per square foot per twenty-four hours, and emerges pure and free from any trace of iron.

A very important feature of the iron process consists in the rapidity with which perfect results are secured. A few years ago the Massachusetts State board of health, after an elaborate series of experiments, showed that an ordinary sand filter would not remove any considerable number of microbes in water until its surface had become sufficiently blocked by a layer of matter (or filth-destroying bacteria), separated from the water being filtered. To obtain this result, it was necessary to work the filters for several days, delivering all the while imperfectly filtered water, until this layer had time to form. With the iron process no such thing occurs. The filter yields, from the first, water containing the minimum number of germs. We know that any accidental disturbance of the surface of the sand of an ordinary filter seriously impairs its microbiological efficiency, but by the iron process the filters are wonderfully tolerant of such disturbances. After working one of these filters a fortnight, the film was purposely broken up by dragging a chain over the surface of the sand. One hour after this operation, a sample of the water was taken and found to yield only 40 microbes per cubic centimeter, and subsequently hourly samples yielded from 31 to 67 microbes per cubic centimeter. The original water, before filtration, contained from 20,000 to 100,000 microbes per cubic centimeter.

The following is a history of the reception of the iron process in France: About five years ago, the process attracted the attention of the largest and most influential water company in France—the Compagnie Génerale des Eaux, of Paris. After having investigated the process at the places where it had already been adopted, the Compagnie des Eaux wished to have further proofs, and the Revolving Purifier Company, which was formed in 1889 to work the process, undertook to demonstrate its efficiency in dealing with the water of the Seine, taken below Paris, at the pumping station of the water-works of Boulogne-sur-Seine, close to the Pont de Sèvres, not far from the outfall of the sewers. Accordingly, a complete plant was erected, capable of dealing with 100,000 gallons of water in twenty-four hours, consisting of a 6-inch purifier, delivering into a long settling trough and filters to correspond. This plant ran for some months, and amply proved the correctness of all that had been claimed for the process to the complete satisfaction of the Compagnie des Eaux, who closely followed the trials and made all requisite analyses. The next step was the application of the process to the whole of the water pumped from these works. The trial plant was removed, and two 10-inch purifiers erected, capable of treating rather more than 1,000,000 gallons daily. The results have been most gratifying. The Seine water at the point of intake, though not very heavily loaded with organic matters, is very rich in microbes, the average result of some analyses indicating the presence of nearly 400,000 per cubic centimeter. Dr. Miquel, the eminent head of the bacteriological department of the Observatoire de Montsouris, was commissioned to investigate the working of the process here, and during the period from February to July, 1893, took twenty-two sets of samples for analysis. The purified water was on each occasion compared with the spring water of the Vanne, which is considered to be the model of what a drinking water should be. The result of his analysis is surprising. Of the twenty-two samples of purified water examined, no less than eleven were either equal or superior to the water of the Vanne on the same date, as regards bacterial purity, while the average of the whole set of samples of purified water gave a figure which does not greatly exceed the average of the Vanne water. The average number of microbes removed was 99.57 per cent of those existing in the original water. The Boulogne works being the first really designed throughout to work the Anderson process, it was of great interest to see how the working expenses came out. It is satisfactory to find that the cost of purification is very low. The following detailed figures give the working expenses for one year:

Description.	Working expenses.	
	Francs.	
Iron (at 7 francs per 100 kilograms)	350.00	$67.55
Cleaning decanting reservoirs	180.00	34.74
Cleaning filters	780.00	150.54
New sand	300.00	57.90
Coal, oil, waste, etc	1,400.00	270.20
Total	3,010.00	580.93

Installations have also been made at Libourne, Nice, Monaco, Mentone, and Villefranche-sur-Mer. The total output of the Nice works ranges from 6,000 to 8,000 cubic meters a day, or from 1,300,000 gallons to 1,700,000 gallons. The installation works well and the purity of the water is all that can be desired.

Early in 1894 a contract was signed between the prefect of the Seine, acting on behalf of the department, and the Compagnie Générale des Eaux. The Compagnie des Eaux in this contract undertook to construct works on the Seine and the Marne, above Paris, capable together of purifying 70,000 cubic meters daily, or nearly 15,000,000 gallons, and to remove 99.6 per cent of the microbes in the original water. These works were to be in full operation by the 1st of January, 1896. The total cost was estimated to be 12,000,000 francs ($2,310,000).

C. W. CHANCELLOR,
Consul.

HAVRE, *February 27, 1896.*

CIDER MAKING IN FRANCE.

PRODUCTION.

With the decline of the grape crop in France, increased attention has been paid to the cultivation of apples and the production of cider, which has, in a measure, superseded wine as the national drink. Official statistics just published show that there were 678,000,000 gallons of cider produced in France in 1895, being an increase of 197,000,000 gallons over the preceding year and of 365,000,000 gallons over the average for the ten preceding years. The departments of the Manche and Calvados (in this consular district) alone produced 302,000,000 gallons. The importance of the industry to the State was shown by the comprehensive manner in which it was treated in the discussions of the thirteenth congress of the Pomological Association of France, recently held in Laval. The subject received more attention than any other before the congress, and many hours were consumed in its discussion.

FERMENTS.

It may be well to state, before describing the several processes of cider making, that the quality of the cider will depend to a great extent upon the proper fermentation of the must, or crude juice, of the apple. So fully is this recognized that it has given rise to the French proverb, "No good cider without good fermentation and good ferments."

Several days after the must is placed in barrels, a sort of ebullition is produced in the mass; bubbles of carbonic acid are disengaged, foam or froth rises to the surface, and the lees, or dregs, of the juice settle to the bottom; finally, the must loses its sweet taste, the sugar which it contained being converted into alcohol. This disturbance, or transformation, is produced by infinitely small infusoria or microscopic beings called microbes, which, seen under the microscope, have the appearance of small cells, of which the diameter is not more than the one-hundredth part of a millimeter. These are the "ferments."

But there are different kinds of ferments, as there are different kinds of apples. The microbes of fermentation differ not only in their exterior form, but also in their manner of existence; they are, moreover, distinguished by their chemical properties, and produce very different effects upon the same must. One will produce a sweet cider, another a "dry," or "sharp," cider; one produces a fragrant, limpid drink; another gives a flat and turbid cider. There is still another kind of ferment, consisting of an aggregation of microbes, commonly known as "mother of vinegar," which, when introduced into cider, transforms it into vinegar. In order to make good cider, it is quite as important to distinguish useful and proper ferments from those that are noxious as it is to separate the unsound from the sound grains of rye to make good whisky.

In passing in review the different manipulations for the making of cider, it is necessary to call attention to the several steps to be taken in the process, such as selecting and gathering the apples, preparing the barrels, crushing and pressing the fruit, fermentation of the must, decanting and bottling the cider, etc.

SELECTING THE APPLES.

The must, or expressed juice of the apples, should contain all the elements necessary for the development of the ferments, viz, sugar, albuminoid substances, mineral matters, etc. To be complete, it should contain some tannin and a certain degree of acidity. In a word, to make good cider, one must, of course, have the proper kind of apples.

(1) *Sugar.*—Why is sugar necessary? Because it is this substance which, by fermentation, is transformed into the alcohol which gives to the cider its strength and body, its preservative property, which renders it possible to keep the cider for a length of time and transport it, if desired. Good apples contain from 14 to 15 per cent of sugar, and certain varieties well known in France, as the Bamtot, the Reine-des-Pommes, the Medaille-d'Or, and the Petit Doux Veret, contain as much as 17 or 18 per cent of sugar. In our American orchards, it is well known, there are apples which have less than 8 per cent of sugar and without other qualities to compensate for this deficiency. It is unnecessary to say that such apples will not make good cider. To a certain extent, one may overcome this defect by adding sugar, say 3½ pounds to a barrel of the must.

(2) *Tannin.*—This astringent principle does not appear to have much influence on the process of fermentation; it is preeminently the clarifying and antiseptic principle of the cider, and it also serves to modify the alcohol. Cider without a certain amount of tannin affects the brain like bad whisky or brandy. Moreover, without tannin, the cider will soon become thick and ropy. In apples of good quality, there should be from 3 to 4 grains of tannin per thousand. Certain sweet apples do not contain more than 2 grains

per thousand, which is insufficient. In orchards where the sweet varieties predominate, the trees should be grafted with others richer in tannin, or such as bear better fruit. The union of the two varieties of trees thus obtained will produce an apple that gives a very rich cider.

(3) *Albumen.*—This substance gives body and softness to the cider. It is deposited, more or less, during fermentation, and by its progressive precipitation, contributes largely to clarify the cider. It contributes also to preserve it, by preventing the transformation of the alcohol into acetic acid or vinegar. The must contains the albuminoid materials which provide the ferments with the nitrogen necessary for their development.

(4) *Acid.*—Moderate acidity (malic or tartaric acid) is absolutely indispensable for proper fermentation. It has been observed that the juice of very sweet fruits ferments badly; very sour apples, or apples containing more than five per thousand of acidity, give a very active fermentation. Acids, particularly such as are formed during fermentation, act upon the alcohol as it is produced and form an ether, which gives to the cider a characteristic taste and smell known as "bouquet." It is not necessary to separate systematically sour apples from the general mass; their presence may be very useful in increasing the flavor of the cider, not only improving its taste, but rendering it more digestible.

(5) *Mineral matters.*—These, including the nitrogenous matters, furnish to the ferments, or fermentation germs, the elements necessary for their nutrition and activity. Most apples contain sufficient mineral matters, without which the microbes would die and there would be no fermentation.

To sum up the qualities needed to produce good cider, it may be stated that the fruit should be ripe and fragrant, averaging from two to four per thousand of acidity, containing, with some mucilage, a notable quantity of tannin (3 to 4 per cent) and a large proportion of saccharine matter, say 15 per cent. It is generally a good rule to mix several varieties of apples, so that the merits of one may compensate for or attenuate the defects of another.

GATHERING THE APPLES.

Too often, when once gathered from the trees, the apples are left in large piles in the orchard or a courtyard, exposed to rain and, it may be, to frost. The disadvantage of such a practice is well known. Water penetrates the fruit, depriving it of part of its flavor and diminishing the quantity of sugar it contains. This washing, moreover, deprives the apples of certain ferments which are found on their exterior and which later on exercise an important influence on the process of fermentation. Care should be taken to protect the fruit against mud or other extraneous substances, which, if introduced into the must, retards fermentation and impairs the quality of the cider. Intelligent fruit growers avoid these evils. They gather the apples properly and with care; house them, or, at least, place them under cover in well-aired sheds, in piles 12 or 15 inches deep, which prevents the fruit from becoming heated and at the same time protects it from the effects of frost. It is almost unnecessary to say that the apples ought to be perfectly matured before being placed in the press. It is not to be understood, however, that they should be overripe. All rotten apples must be rigidly excluded. Some cider makers contend that a few rotten apples will not affect the flavor of the cider; that the evil effect they might produce is destroyed by the process of fermentation. Others say, with reason, that one might as well pretend that a good omelet can be made by mixing one or more spoiled eggs with the fresh eggs. The experience of the French cider makers is that even a few decayed apples will cause the cider to be flat and of bad flavor. They also advise against the practice of gathering different varieties of apples without reference to their time of maturity, and thus mixing with the properly matured fruit either green or overripe fruit.

PREPARATION OF THE BARRELS.

Before entering upon the details which are necessary to be observed in making good cider, it will be well to consider another important preliminary step, viz, the preparation of the barrels or vessels which are to contain the fluid, especially such as have been previously used for the same purpose. Where the lees have been left in a barrel, washing it with water more or less hot will generally prove insufficient to remove the musty taste which such a barrel will impart to the new cider. A better cleansing agent is water and sulphuric acid—1 quart of the latter to an ordinary bucketful of water. Pour this mixture into the barrel, and then roll it from side to side, or agitate in such a manner that the liquid will come in contact with the entire inner surface of the vessel; then rinse several times with clean water, and subsequently fumigate the interior with the fumes of burning sulphur. This fumigation can not be too highly recommended. It prevents the formation of mold, keeps the barrel pure, prevents secondary fermentation, and contributes toward preserving the cider sweet for a longer period of time. In other words, this process of disinfecting the barrel destroys the vinegar microbes which form in the lees and adhere to the inner surface of the barrel, ready to set up acetous fermentation the instant they come into contact with the cider.

The cellar or other storage place must likewise be kept scrupulously clean. It often happens that in drawing cider more or less of it is spilled on the floor; this soon becomes acid, producing germs or microbes, which generally find their way into the barrel, and, multiplying rapidly, soon convert the cider into vinegar. The French think that absolute cleanliness is more important in fermenting cider than in fermenting wine, and they think, moreover, that cider is the most healthful of all drinks.

CRUSHING THE APPLES.

Having carefully selected the fruit, the next step is to thoroughly crush it. For this purpose, many kinds of patent appliances are employed. A perfect crusher should conform to the following conditions:

(1) It should be so constructed as to effect a complete mash of the fruit, not breaking it up merely, but grinding it to a fine pulp.

(2) It should be so arranged that it will not easily become obstructed during the process of grinding or mashing the fruit.

(3) The mechanism should be as simple as possible, consistent with the object to be attained and the rapid crushing of the fruit.

In France, a great variety of apple mills are used, but the best known are the systems of Simon, Savary, Mabille, Garnier, and Chapellier. The Simon mill, which seems to be the most used, is founded on the principle above mentioned. It is said to do excellent work.

After mashing the apples, the usual practice is to place the pulp in uncovered vats or tubs and leave it twelve or fourteen hours before pressing, stirring it meanwhile, from time to time, with wooden shovels, in order to bring the mass into contact with the air. The principal advantage claimed to be derived from this maceration and aëration is that it improves the color of the cider and makes it richer in tannic acid; but recently it has been found that these advantages can be attained as readily by aërating the must, or crude juice, and it is now the practice at the large cider factories to press the fruit as soon as it has been mashed. Vats or tubs are only had recourse to when water is added to the pressed mass for a second pressing.

PRESSING THE PULP.

Of all appliances employed in the fabrication of cider none is of more importance than the apparatus for pressing the pulp, which has now been brought to great perfection. The ancient cider presses are too well known to require description; they were very primitive in construction and only pressed out about 40 per cent of the juice. The modern press is much smaller, and requires much less labor to operate than the former, and extracts from the pulp 60 or 70 per cent of juice. It consists of a circular cage, with a proper bottom on which the pulp or mashed apples are placed and then pressed by means of a screw—at first slowly, then progressively, until the operation is completed. When the pulp has been thus drained, it is taken out and placed in vats or tubs, where it is macerated with a certain quantity of water, say 2 or 3 gallons of pure, soft water to 100 pounds of pulp, for twenty-four hours, after which it is subjected to a second pressure. In this way, one obtains from every hundredweight of pulp several gallons more of cider, which is, of course, of less strength than the first running from the press. It is scarcely necessary to say that these various processes in the manufacture of cider should be conducted as rapidly as possible.

FERMENTATION.

The expressed juice of the fruit, known as the must, having been placed in barrels, the next step is to obtain proper fermentation, the most delicate and troublesome process in the making of cider, and, at the same time, the most important, since upon it depends the quality of the product. The fermentation of cider differs essentially from that of wine. In the case of wine, all the sugar ought to be completely transformed into alcohol by the ferments, or fermentative microbes, which, as we have already seen, play such an important part in this process. For cider, on the contrary, it is necessary that fermentation be promptly established and last only a short time, in order that the must may be clarified before the sugar has been entirely transformed into alcohol. The sugar which remains after the first active fermentation will still maintain a slow fermentation in the cider, which prevents it from becoming too acid and being transformed into vinegar. While very little direct action can be exercised on the progress of fermentation, which depends primarily upon the ferments or microscopic germs, that know well how to profit by every favorable circumstance to increase their number and keep steadily at work, we may, nevertheless, greatly modify their action by attending to conditions which are known to influence their activity. It is all important, therefore, to know the conditions which influence fermentation and how to employ them. Of these, there are three which may be considered preeminent, viz, temperature, aëration, and the acidity of the crude juice.

Temperature.—This plays an important rôle in the process of fermentation. At 32° F. fermentative germs cease to multiply and become inactive; at a temperature of 130° to 140° many of them die. It is between 68° and 78° that they are most active. If, therefore, the temperature is too low, it will be necessary to warm the must in order to accelerate fermentation. This can be done most conveniently by heating a small quantity of the fluid to about 135° or 140° F. and then pouring it into the barrel. In France, a specially constructed warming apparatus (chauffe-cuve) is used for this purpose. The practice of making a fire in the caves or cellars, although very much followed, is to be condemned. In the first place, it is very difficult unless the barrels are small to heat the must; on the other hand, when the fermentation has been once established, the overheating of the cave or cellar will be hurtful, as it tends to increase the action of the ferments to the point of lessening the transformation of the sugar into alcohol.

Aëration.—Oxygen is an essential element in the process of fermentation, and it is, therefore, necessary that the must be thoroughly aërated. This operation is not difficult. Stir the liquid from time to time; draw off a quantity now and then and return it to the barrel; leave the bunghole open, or, preferably, it may be stopped with a bit of cotton wool, which admits the air, and at the same time excludes any injurious microbes that might find their way into the barrel. Not only ought the inside of the barrel to be open to contact with the outer air, but it is, moreover, unnecessary at first to fill the barrel completely with the must; it should not be filled more than two-thirds or three-fourths. In this way, a much larger surface of the liquid will be left exposed to the air.

Acidity.—In spite of all precautions, it sometimes happens that fermentation is retarded. This is the case when too many sour apples have been used, the result being an acid must. Some persons neutralize the acidity by throwing a handful of wood ashes into the liquid and then agitate it; but the best makers think this manner of treating the must produces a flat cider, without color, and is not, therefore, to be recommended. They say it is better to avoid an excess of acidity by a proper choice of fruit. When fermentation is active, a characteristic brownish foam rises to the surface; otherwise, there will be a white scum, which is a bad sign. It is necessary, then, to employ the means which have been already indicated to produce more active fermentation. Another means of increasing fermentation, much used by the French cider makers, is by adding a small quantity of must made from the best apples to the indifferent must, which acts as a leaven to produce fermentation. The ferments of good fruit thus added set immediately to work and multiply the fermentative germs so rapidly that the deficiency in the must to which it has been added is soon overcome and a fresh and complete fermentation takes place. In like manner, a good cider may be destroyed by the addition of a bad ferment, often unwittingly added, by not taking care to clean minutely the instruments and vessels employed in the fabrication of the cider.

In France, an artificial leaven made from apples of the best growth is an article of commerce, and is much used to correct deficiencies in must of a poor quality. A quart of this leaven, costing about $1, will serve to improve as much as 130 to 140 gallons of an indifferent must. This leaven, or artificial ferment, has been used with very satisfactory results for several years and is apparently growing in favor with the large cider makers. This would seem to indicate that, in order to produce the best results, an intimate correlation should exist between the nature of the must and the leaven employed. It is the application of that principle in nature which teaches that "like produces like."

RACKING.

After ten or fifteen days, fermentation ceases, a densimeter introduced into the cider shows its specific gravity to be from 1015 to 1020; the liquor has become clear, the grosser lees settling to the bottom and the lighter rising to the surface, so that the cider is, as it were, between two layers of lees. This is the time to draw it off. Some cider makers are averse to drawing it off, under the impression that the lees nourish the cider and that the operation tends to produce a flat cider, which does not keep well. This theory, however, is apparently not well founded. It is paradoxical to suppose that relieving the cider of its impurities and protecting it against the action of bad ferments, which are eventually formed in the lees, can in any way impair its good qualities. It is, therefore, better to rack it at the proper time, and this can be best effected by a siphon or spigot. Care should be taken not to place the tap low enough to disturb the lees at the bottom of the barrel.

The cider having been drawn off into a clean barrel, undergoes, after a certain time, a second fermentation, very much less energetic than the first. When this second fermentation becomes feeble and carbonic acid is no longer disengaged, the barrel should be completely closed until the time arrives for using the cider, when it should be again drawn off, ad libitum, by a spigot or faucet. Cider is preserved well enough in barrels when completely full, but when the barrel has been partly emptied, there is danger of its degenerating in quality. This is so well understood in France that when a certain quantity of the cider has been drawn off, the remainder is protected by what is known as "Noel's protector," much the same as a simple covering or thin layer of oil, which excludes the air and prevents the entrance of noxious microbes, which would soon transform the cider into vinegar.

BOTTLING.

Bottling cider has become a large industry in France. Good cider in bottles ought to be clear and sparkling, and, when properly prepared, is a popular table drink, not only on account of its pleasant and refreshing taste, but for the still more important reason that cider is now regarded in France as the most hygienic of all drinks, much more so, indeed, than the best of wines. As evidence of the growing popularity of the beverage and the extent to which it is used by all classes, it may be stated that of the many hundred millions of gallons made last year, not more than 500,000 gallons were exported.

It is sometimes difficult to obtain cider having all the requisite qualities for bottling. It is important to choose the proper moment for bottling, that is to say, when fermentation is neither too active nor too feeble. When bottled too soon, cider will froth violently and become muddy; a new fermentation is set up which occasions a deposit more or less abundant. As a rule, cider ought not to be bottled when its specific gravity is greater than 1015, and even then there will be in certain ciders a slight deposit. Some persons engaged in the business contend that it is better to wait until it indicates not more than 1010, or 1°, and add a little sugar to replace that which is wanting. It is easy to determine the quantity needed, ten divisions of the densimeter, or 1°, corresponding to about 2 per cent of sugar. About 2 pounds of sugar will be required to 100 gallons of cider. In this way, a clear, fragrant drink, sparkling as champagne, will be obtained.

C. W. CHANCELLOR,
Consul.

HAVRE, *April 10, 1896.*

BICYCLES IN FRANCE.*

The popularity of the bicycle as a means of exercise, sport, and pleasure is fully established in France. The full extent of the use of this machine has recently been brought before the public in the national tax collectors' reports. Since April 29, 1892, each bicycle has been taxed 10 francs ($1.93) per annum. The rapid growth of the popularity of this road carriage is well demonstrated by the statistics. In 1889, there were only 50,000 bicycles in use in the entire country; since that date, the increase has been rapid and constant.

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*For reports on bicycles in other countries, see CONSULAR REPORTS No. 189 (June, 1896), pp. 325-336.

The Matin, of Paris, gives a series of interesting data showing the extensive and general sales of these machines. There were in use during the year 1892, 130,477 bicycles; in 1895, this figure had increased to 149,080; and to-day, there are 160,000, in round numbers, upon which taxes are paid. Now, if there are but 150,000 in use, they will make an average of 391 per 100,000 inhabitants, or four, nearly, to every 1,000 persons, making one bicycle to every 250 of the population. If the feeble, the aged, young children, and the majority of the women be excluded from the calculation, then it would make one bicycle to every 50 persons who are able to ride. At this ratio, the majority of the French people able to ride a bicycle will own a machine within ten years.

This general average is reckoned on the hypothesis that bicycles are uniformly distributed over the entire country, but this is not the case. The use of the wheel varies greatly in the eighty-seven departments into which France is divided. There are only nine bicycles in the island of Corsica for its 100,000 inhabitants, and taxes are paid upon 1,010 in the Department of Seine-et-Oise.

The table below gives the departments in which the smallest number of bicycles per 100,000 inhabitants are used:

Departments.	Number.	Departments.	Number.
Lozère	39	Hautes-Alpes	105
Haute-Loire	63	Ariége	108
Aveyron	66	Hautes-Pyrénées	108
Cantal	79	Puy-de-Dôme	124
Corrèze	81	Haute-Vienne	126
Lot	87	Basses-Alpes	144
Creuse	103		

These departments are more or less mountainous, and the wheel can not be generally used; in the Aube, taxes are paid on 856 bicycles per every 100,000 persons; Marne, 944; Seine-et-Marne, 988; and in Seine-et-Oise, 1,010. From 500 to 700 machines are owned in the valley of the Loire for the same number of inhabitants and 500 in the valley of the Garonne. There are only 8,000 lady cyclists in France, making one woman to every twenty riders.

The excellence of the French roads, and the fine order in which they are continually kept is one reason for the popularity of the bicycle. The great highways leading out from Paris and all other French cities, as well as the national military roads, offer every inducement that a bicyclist can desire.

The Bicyclist Society of France has carefully explored every route, and indicated on their charts all dangerous descents, sharp curves, and steep inclines. Signboards, also, have been erected wherever necessary for the special guidance of the cyclist, so that he is as fully equipped as a captain of a ship steering for a strange port. This gives great confidence to the riders and prevents many accidents.

The bicycles offered for sale on the French market are manufactured in every land. France can hardly hold her own in manufacturing these machines. England supplies the largest quantity of the foreign wheels, a few are imported from Belgium, and many from the United States. There is no reason why the high-grade American bicycles should not have a larger sale in France if the right means were used to introduce them.

WALTER T. GRIFFIN,
Commercial Agent.

LIMOGES, *June 4, 1896.*

GUATEMALAN BOUNDARY—ARCHÆOLOGICAL EXPLORATIONS.

Under date of June 18, 1896, Mr. I. Sepulvida, secretary of the United States legation at Mexico, transmits translation of a decree of the President of Mexico extending the period for the work of the commission to determine the boundary between Mexico and Guatemala eighteen months from May 6, 1896. Mr. Sepulvida also sends translation of another decree regulating archæological explorations in Mexico. Explorers are permitted to take molds or casts of objects found and send them out of the country, but the originals become the property of the Government of Mexico. Permission, however, may be obtained to send away duplicates, if any be found. The concession granted to any exploring party shall not exceed ten years, and the work must always be subject to the inspection of a Government agent.

TEHUANTEPEC RAILWAY LEASE.

I inclose herewith a newspaper clipping, giving a general résumé of the articles and conditions of the lease entered into by the Mexican Government and Pearson & Son, of England, covering the property and operation of the Tehuantepec Railway, which runs between the port of Coatzacoalcos, on the Gulf of Mexico, and the port of Salina Cruz, on the Pacific Ocean.

THOS. T. CRITTENDEN,
Consul-General.

MEXICO, *June 13, 1896.*

[Newspaper inclosure.]

The contract between the Mexican Government and Messrs. Pearson & Son for the lease of the Tehuantepec National Railway was signed on the 4th instant by Minister Mena, of the Department of Communications and Public Works, representing the Executive, and

Thomas L. Walsh representing the lessees. It will be remembered that the Diario Oficial on the 4th instant published a federal decree authorizing President Diaz to make such lease contract on the same day the contract was signed and Mr. Walsh left for England with Mr. Pearson's copy of the contract in his possession. Of course, the harbor improvements at Salina Cruz will now fall to Pearson & Son, they having already signed for those at Coatzacoalcos, the Gulf of Mexico terminus of the Tehuantepec road.

The lease is for fifty years; the Government contributes $100,000 per month during three years for the reparation or reconstruction of the road, during which time Messrs. Pearson & Son oblige themselves to have the line in solid and substantial condition. After the three years, the net receipts are to be divided between the Government and the lessees on a varying scale for each successive period of ten years. If the road should fail to give receipts over expenses of operation, whenever the loss sustained by the lessees reaches the sum of £500,000, they may ask for the rescission of the contract.

Possession of the road will be given to the lessees in about two months, or early in September.

NOTES.

A New Dynamometer.—Consul Doederlein, of Leipsic, calls attention to a new dynamometer invented by Mr. von Pittler, in Germany. This dynamometer, so it is claimed, is of equal value as an instrument for power lessors and power lessees, the extreme capabilities of a whole establishment, on the smallest admissible expenditure of fuel, being obtainable thereby, and it also furnishes a test whereby we can ascertain when the capabilities become reduced and the cause of such reduction. The expenditure of power is indicated by the figures of the counter and calculated in accordance with these figures.

The construction is extremely simple, as all delicate parts are excluded. It is available as an independent apparatus for the measurement of power, either of individual machines or of a whole establishment. It can, furthermore, be used as an intermediate countershaft, and is, as such, in addition to its qualities as a dynamometer, an excellent elastic impulsion, especially for electric motors.

Just in the same way as this dynamometer can be used as a countershaft, it can also be connected with the shafting, and if, in such case, we deduct the cost of the two bearings necessary for the shafting, namely, the arbor and the driving pulley, from the expense of such a dynamometer, the actual cost thereof is so low that we must regard it, on account of its good qualities, as a necessary part of a shafting—as a part that everybody in possession of a mechanical motive power must of necessity have, if he desires to utilize such power to advantage.

The dynamometer can be easily handled and controlled by anybody, whether expert or layman.

The consumption of motive force, be it fuel (in the shape of coal, steam, hot air, oil, etc.), water power, or electricity, can be controlled per absorbed power unit, so that both power lessor and power lessee can check off the consumption of power at any time, say weekly, monthly, or yearly, in the most precise manner.

It has also been observed by Mr. von Pittler, by means of his apparatus, that the amount of labor performed in his factory each day from 7 to 9 o'clock a. m. was proportionately less than from 9 to 12 o'clock a. m. It was found that this difference was due to the fact that the foreman came to the factory at 9 o'clock. Again, the record kept by Mr. von Pittler shows that the amount of labor on Fridays, Saturdays, and Mondays was 800,000 meter kilograms less than other days, whereas on Thursday—the day before pay day—the largest amount of labor was performed.

Mr. von Pittler, who has the counting apparatus adjusted to one side of his office desk, thereby keeping control over the work of his machines, can also very easily ascertain the difference in the amount of coal used before and after cleaning the boilers.

The Electric Plow in Germany.—In CONSULAR REPORTS No. 181 (October, 1895), p. 161, an illustrated report entitled "The electric plow in Germany," was printed. Consul Doederlein, of Leipsic, who prepared the report, writes to the Department that he has received communications concerning the plow, principally as to the manufacturers' address—which he omitted in his report—not only from all parts of the United States, but from England, Australasia, and Africa. The consul, therefore, requests the publication in the CONSULAR REPORTS of the address of the manufacturers of the plow, viz, Zimmermann & Co., Halle-on-the-Saale, Germany.

Foreigners in German Technical Schools.—Consul Doederlein, of Leipsic, transmits the following to the Department: It is a well-known fact that the technical schools in Saxony are celebrated throughout the world for their excellence, and it is also well known that it is almost impossible for foreigners to gain admittance, especially to those of the textile branch. The following clipping from the Leipziger Tageblatt shows the animus of Saxon exporters and manufacturers. It runs thus:

> The fact that many foreigners are received into the technical schools of Saxony, and that the knowledge acquired thereat is subsequently used in order to create undertakings abroad which are intended to compete with our Saxon industry, has induced a number of our textile manufacturers in Limbach to represent to the Saxon Government the desirability of not permitting foreigners to attend the technical schools. The Government has not complied with this wish, but rather replied in the sense that the standpoint is a two narrow-minded one, and that the competition existing abroad has arisen less through students of the technical schools than through the large number of volunteers who have been accepted in Saxon business firms. It is by the admission of such volunteers that the manufacturers themselves train up their own subsequent competitors.

The consul adds: There is no doubt as to who the "foreigners" are, against whom the German manufacturers desire their Government to close their schools officially, and I trust that the time is near at hand when Americans will not need to go abroad in order to obtain technical training.

Canned Horse Meat with American Labels.—Consul du Bellet writes from Rheims, June 9, 1896: I have the honor to inclose herewith a clipping from Le Courrier de la Champagne, a leading newspaper of this city, with a translation of the same. If the facts reported are true, I consider it of the utmost importance that our exporters of canned meats should be informed of the use that is being made of their labels in Europe, so that they may put a stop to a fraud which, if tolerated, is calculated to ruin their export trade to Europe.

[Translation from Le Courrier de la Champagne.]

SAD END OF ENGLISH HORSES.

The judge of the police court of the Thames has rendered a judgment in a case insignificant in itself, but in which we find valuable information to consumers of canned goods. A driver, called Almond, was charged with having inflicted cruel treatment on horses, an offense which is severely punished by the English law. The charges having been proven, he was rather heavily fined. The interest centered on the employer of the brute, who, of course, appeared in behalf of his man and testified to the kind disposition of the latter. As he was explaining that Almond was daily intrusted with the care of driving to the docks and putting on board horses bound for Rotterdam, the magistrate remarked that the ill-treated horses were so old they could hardly stand up, and asked the employer to what use the Dutch put such animals. In reply, the employer explained, in the most unconcerned manner, that there existed in Rotterdam and Antwerp large and important factories where the invalid omnibus horses of London were converted into excellent canned beef and retailed throughout Europe in sealed boxes with American labels. This industry absorbs, it is said, more than 26,000 horses every year.

Foreign Trade of Italy in 1895.—Under date of March 28, 1896, Consul-General Jones, of Rome, transmits the following statistics relative to the foreign trade of Italy during the calendar year 1895:

Imports of merchandise, 1,187,298,399 lire ($229,148,591); imports of merchandise and precious metals, 1,194,551,499 lire ($230,548,439.30). Exports of merchandise, 1,038,277,663 lire ($200,387,588.95) and 1,059,579,763 lire ($204,498,894.25) including precious metals. Comparing these figures with the figures of 1894, they show that the imports of precious metals in 1895 had diminished 100,842,300 lire ($19,462,563.90), while the imports of other products surpassed by 92,658,763 lire ($17,983,041.25) those of the preceding year; they likewise show a lesser exportation of precious metals to the amount of 10,215,600 lire ($1,971,610.80) and that the exportation of other products increased 5,749,042 lire ($1,109,565.10). The customs dues arising from this commerce amounted in 1895 to 247,651,367 lire ($47,796,713.83), which was an increase of 27,733,346 lire ($5,352,535.77) over the year 1894.

Revised Telephone Tariff of Switzerland.—Consul Germain, of Zurich, writes, June 10, 1896: The Swiss postal authorities on January 1 last put into force a reduced telephone tariff. The former charges for the use of a telephone were 80 francs ($16) per annum, with a local annual switching limit of eight hundred. The new tariff now in force is 40 francs ($8) per annum, plus an additional charge of 5 centimes (1 cent) for each local switch. The telephone system throughout Switzerland is owned by the Government, and the service is first class in every respect. The switching charges to outside Swiss points, with a three-minute time limit, are as follows: Thirty centimes (6 cents) up to 50 kilometers (31 miles), 50 centimes (10 cents) up to 100 kilometers (62 miles), and 75 centimes (15 cents) above 100 kilometers to more distant Swiss points.

Mineral and Metal Trade of Spain.—Under date of April 18, 1896, Consul-General Bowen, of Barcelona, transmits the following statistics covering the exports and imports from and to Spain of minerals and metals during the year 1895.

Exports of minerals.

Description.	Quantity.	Value.
	Tons.	
Iron	5.179,761	$7,769,600
Copper	504,408	3,483,000
Zinc	29,346	244,300
Lead	9,203	636,800
Manganese	29,997	235,000
Antimony	9	500
Common salt	254,202	635,500
Pit coal	8,318	33,200
Pyrites	488,609	814,500
Total	6,503,943	13.852.400
Total in 1894		14,204,000

Exports of metals.

Description.	Quantity.	Value.
	Tons.	
Iron	22,669	$263.300
Copper	59,507	3,632,000
Zinc	1,367	105.500
Lead	151,129	7,043,300
Quicksilver		1,240,000
Gold		94,600
Silver		6,935,000
Total		10,313,700
Total in 1894		13,200,000

Imports of minerals and metals.

Description.	Quantity.	Value.
	Tons.	
Pit coal	1,515,506	$6,825,000
Coke	255,043	1,148,000
Tar	33,766	563,000
Petroleum, crude	46,992	1,009,500
Iron	38,386	1,630,000
Tinned iron plate	1,241	86,800
Tin ingots	825	316,000
Gold		100,000
Silver		4,000,000
Alkaline carbonates	27,591	1,016,000
Nitrate of soda	26,385	1,320,000
Sulphur	6,813	1,016,000
Machines and boilers	3.597	720,000
Total	1,956,145	19,750,300

The importations of minerals and metals into Spain during 1895 amounted to $650,000 less than in 1894.

New Railways in Spain.—Under date of April 18, 1896, Consul-General Bowen, of Barcelona, transmits the following railway statistics:

During the year 1895 the following mileage additions were made to Spain's railways: Valladolid to Ariza, 158; Baeza to Quesada, Guadiz, and Almeria, 96; Santander to Caberon de la Sal, 28; Picasent to Carlet, 11; Carlet to Alberique, 8; San Sebastian to Zaraus, 16; Peñaranda to Fuente del Arco, 43; Puebla de Hijar to Alcañiz, 20; Olot to Gerona, 14; Valencia to Torrente, 6; total, 400 miles.

Excessive Manuring in Spain.—Under date of June 18, 1896, Consul-General Bowen, of Barcelona, transmits the annual report from Consular Agent Mertens, of Grao, from which the following statement relative to the indiscriminate use of fertilizers in Valencia is extracted:

While the exports from Grao during the year 1895 were largely in excess of those of the preceding year, as far as tonnage is concerned, the profits did not keep pace with this increase. This was chiefly due to the indiscriminate use of artificial manures, which the farmers of this province have employed during the last few years in their fields to obtain a larger quantity of fruit and other produce. The result has been that the quality of oranges is, in many cases, such that they could not stand exportation, and arrived at their destination in a completely spoiled condition. The complaints from the rice millers are to the same effect, and the low prices of this grain, due to this deterioration in quality, proves a veritable calamity. The desire to secure larger crops was, in many instances, such that some farmers went beyond employing an increased quantity of guano and used sulphates of ammonia and nitrates of soda alone as manure, without any other preparation or mixture with other chemicals. The effect on the soil must, sooner or later, prove disastrous, and the result will be complete failure of crops, likely to last for several years. Our American farmers should take warning from this, and use artificial manures carefully and judiciously.

Imports of Butter into British Guiana.—Consul Patterson writes from Demerara, May 29, 1896: I have the honor to call attention to the quantity of butter imported into this colony and the small quantity that comes from the United States. Nearly all the butter used in the colony is imported, less than 10,000 pounds being produced here. For the financial year 1895–96 the imports of butter were 566,381 pounds, valued at $103,081.08; from Great Britain, 257,876 pounds, valued at $50,647.54; France, 276,876 pounds, valued at $47,378.38; United States, 20,326 pounds, valued at $2,932.86. Nearly all this comes in the ice vessels and is not especially prepared for this market. The balance comes from different countries. The above may be roughly divided into two classes—table and cooking butter. The first class is put up in 1 and 2 pound tins, hermetically sealed, and retails at from 40 to 48 cents per pound; the second class is put up in barrels or firkins, and retails at about 30 cents per pound. The first grades about the same as dairy firkins, and is quoted in New York at about 17 cents; the second class, about the same as bakers' tubs, is quoted in New York at 11 cents. Butter for exportation to the tropics requires to be more heavily salted than for use in the temperate zone. I understand the butter imported from France is salted by the addition of 12 per cent of salt to the weight of butter. The local standard here is the same as at Trinidad and Barbados, viz, 75 per cent of butter fat. I do not see why we should not have our share of this trade. Taking the three Guianas and other West India islands, this trade must amount to $1,000,000 annually.

Gold-Mining Returns of British Guiana.—Consul Patterson, of Demerara, writes June 11, 1896: I have the honor to inclose herewith returns of production of gold in the colony of British Guiana for the calendar year 1895. The gold is not refined, so it is impossible to state its "fineness."

Returns of gold for calendar year 1895.

	Oz.	Dwts.	Grs.
January	5,876	14	5
February	6,999	10	5
March	9,686	6	21
April	11,145	12	10
May	12,810	18	21
June	9,749	5	18
July	10,910	6	5
August	10,031	5	19
September	9,811	15	3
October	12,186	17	3
November	9,389	1	10
December	14,338	0	21
Total	122,935	14	21

International Exposition of Guatemala.—Consul-General Pringle writes from Guatemala, June 3, 1896: The Government of this Republic has determined to hold an international exposition. It will be opened on the 15th of March, 1897, and will close on the 15th of July, 1897. The official invitations were issued some time ago, and, I presume, were transmitted through the legation. I send, under separate cover, some of the Spanish programmes; as soon as the English ones are printed I will forward them. The Government is doing all in its power to insure success to this enterprise, and has brought the main building from France, at great expense. It is being put up by French workmen, brought over especially for that purpose.

American Trade with New Caledonia.—Under date of April 10, 1896, Vice-Commercial Agent Le Mescam, of Nouméa, reports as follows: A leading chemical manufacturing firm of Philadelphia has written to me for information regarding the purchase of large quantities of chrome ore. Should they follow up their views, it will lead to the opening of an export trade to the United States, and this will naturally be followed by the introduction of American goods into this market by a direct route.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of June to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
John Karel, St. Petersburg	Nov. 20, 1895	Cereal crops of Russia	Department of Agriculture.
Do	Nov. 30, 1895	Cultivation of cotton in Russia.	Do.
Do	Dec. 2, 1895	Russian hop crop of 1895	Do.
Do	Feb. 3, 1896	Russian grain and flour trade	Do.
Do	June 8, 1896	Grain crop of European Russia.	Do.
Do	Apr. 16, 1896	Cattle plague in European Russia.	Do.
D. W. Maratta, Melbourne	Feb. 15, 1896	Wool industry	Do.
G. W. Bell, Sydney	Jan. 24, 1896	New South Wales	Do.
D. N. Burke, Malaga	May 1, 1896	Damage to crops in Spain	Do.
A. F Fay, Denia	May 13, 1896	Spanish demand for wheat	Do.
W. D. Warner, Cologne	Apr. 2, 1896	Publications beneficial to American trade.	Do.
W. H. Seymour, Palermo	Apr. 18, 1896	Method of pruning trees in Italy.	Do.
E. Schneegans, Saigon	May 2, 1896	Rice market	Do.
Do	May 16, 1896	do	Do.
Eugene Germain, Zurich	June 10, 1896	Swiss domestic-animal census for 1895.	Do.
T. E. Moore, Weimar	Apr. 23, 1896	Antidiphtheritic serum	Marine Hospital Service.
A. J. Patterson, Demerara	June 11, 1896	Gold in British Guiana	Director of the Mint.
D. W. Maratta, Melbourne	Jan. 16, 1896	Receipts of gold at the Melbourne mint.	Do.

FOREIGN REPORTS AND PUBLICATIONS.

Emigration of Discharged German Convicts.—The British consul at Dusseldorf, in a report to his Government enumerating the many labor associations in Germany for securing employment to workmen, says:

> Besides these, there are voluntary associations to provide board, lodging, and employment, such as cutting firewood, beating carpets, etc., for those who travel about seeking work. The discharged convicts, who have been imprisoned for longer periods of time, are looked after by similar institutions, which, when employment can not be found in the neighborhood, provide means of migration or emigration, as the case may be.

British Trade Returns.—The accounts of trade and navigation of the United Kingdom for the month of May and for the five months ending May 31, 1895 and 1896, make the following showing of British imports and exports:

Imports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of May.				
Animals, living, for food	$4,027,102	$4,663,219	$636,117	....
Articles of food and drink:				
Duty free	57,493,736	51,721,056	....	$5,772,680
Dutiable	8,430,562	8,350,966	....	79,596
Tobacco	1,292,896	1,606,588	313,692	....
Metals	7,654,218	8,601,283	947,065	....
Chemicals, dyes, and tannics	2,687,492	2,244,355	....	443,137
Oils	3,430,530	2,829,141	....	601,389
Raw materials for textiles	27,769,558	27,323,241	....	446,317
Raw materials for other industries	16,893,292	16,948,698	55,486	....
Manufactured articles	33,341,832	32,156,482	....	1,185,350
Miscellaneous goods	5,685,434	5,552,486	....	132,948
Parcel post	397,066	283,527	....	113,539
Total	169,103,718	162,281,042	....	6,822,676
Five months ending May 31.				
Animals, living, for food	14,675,282	21,478,967	6,803,685	....
Articles of food and drink:				
Duty free	264,956,657	277,614,626	12,657,969	....
Dutiable	46,491,926	45,183,346	....	1,308,580
Tobacco	5,534,106	7,667,356	2,133,250	....
Metals	35,072,629	40,792,724	5,720,095	....
Chemicals, dyes, and tannics	15,720,800	17,894,472	2,173,672	....
Oils	15,428,621	16,505,533	1,076,912	....
Raw materials for textiles	181,141,212	179,750,951	....	1,390,261
Raw materials for other industries	68,983,958	78,213,992	9,230,034	....
Manufactured articles	149,134,793	165,576,321	16,441,528	....
Miscellaneous goods	27,345,376	29,407,739	2,062,363	....
Parcel post	2,211,631	2,137,923	....	73,708
Total	826,696,991	882,223,950	55,526,959	....

Exports.

Articles.	1895.	1896.	Increase.	Decrease.
Month of May.				
Animals, living	$421,882	$381,344	....	$40,538
Articles of food and drink	3,813,971	3,987,461	$173,490	....
Raw materials	8,297,503	7,525,824	....	771,679
Manufactured and partly manufactured articles:				
Textiles and yarns	37,277,286	37,120,836	....	156,450
Metals and metal goods	11,976,766	14,362,233	2,385,467	....
Machinery and millwork	6,543,397	7,139,230	595,833	....
Apparel and personal effects	2,643,698	3,226,687	582,989	....
Chemicals, chemical products, and medicinal preparations	3,933,674	3,444,213	....	489,461
All other	13,774,673	13,648,278	....	126,305
Total manufactures	76,149,494	78,941,477	2,791,983	....
Parcel post	582,460	707,531	125,071	....
Total British exports	89,265,310	91,543,637	2,278,327	....
Foreign products	25,380,010	23,215,482	....	2,164,528
Total exports	114,645,320	114,759,119	113,799	....
Five months ending May 31.				
Animals, living	1,232,558	1,527,705	295,147	....
Articles of food and drink	17,992,135	19,554,600	1,562,465	....
Raw materials	33,705,809	34,105,987	400,178	....
Manufactured and partly manufactured articles:				
Textiles and yarns	199,043,308	215,822,956	16,779,648	....
Metals and metal goods	52,394,655	65,697,545	13,302,890	....
Machinery and millwork	28,326,446	32,731,903	4,405,457	....
Apparel and personal effects	16,670,916	20,574,937	3,904,021	....
Chemicals, chemical products, and medicinal preparations	17,028,480	18,344,215	1,315,735	....
All other	60,960,761	67,686,878	6,726,117	....
Total manufactures	374,424,566	420,858,434	46,433,868	....
Parcel post	2,397,478	3,121,281	723,803	....
Total British exports	429,752,546	479,168,007	49,415,461	....
Foreign products	121,482,517	122,962,910	1,480,854	....
Total exports	551,235,063	602,130,917	50,895,854	....

Insurance Against Want of Employment.—A report from the British vice-consul at Cologne on the "Society for Insurance Against Want of Employment" has been laid before Parliament and printed. Workmen who are at least 18 years of age and have had their domicile in the community of Cologne for at least two years and are not incapacitated from working can insure in this society by the payment of 6 cents per week. The time during which the unemployed can draw insurance runs from December 15 to March 15, but no one can draw insurance for a longer period than eight weeks. It is not necessary to give in detail the many and minute rules governing the payment of insurance, to protect the society from imposition, and to safeguard its funds. The daily allowance to the insured for the first twenty work days are: For a married unemployed workman or a widower, in case he has to provide for one or more children, 48 cents; for an unmarried unemployed workman or a widower, 36 cents. For all time after the first twenty days, the allowance is fixed at one-half these sums. The funds of the society consist of (1) subscriptions of the members, (2) contributions of the insured, (3) contributions of the city of Cologne, and (4) voluntary donations. The society is governed by a board consisting of (1) the Oberbürgermeister of Cologne or the alderman nominated by him, (2) the chairman of the Cologne general labor registry, and (3) eighteen members, viz, six delegated by the committee of the insured workmen and twelve members elected by the general meeting (provided for in the by-laws), one-half of whom belong to the employing class, the other half being neither employers nor workmen.

Destitution in Germany and in Great Britain.—The British consul at Dusseldorf, in a report to his Government upon labor organizations in Germany and the relative amount of destitution in both countries, says:

> Whether the amount of poverty is greater or less in England than in this country is a matter requiring statistical proofs not easy to obtain, but one thing is quite certain—that in this country it does not meet the eye to the same extent as in ours, which, nevertheless, is so celebrated for its charitable institutions. I am inclined to believe that the proportion of destitution will be found to be greater in the British Isles than in Germany, and, possibly, the cause of this state of things may be found in the different systems of municipal, communal, and provincial administration in such matters.

Mercantile Loans for Chinese Industries.—The North China Daily News, of May 13, 1896, prints a translation of a proclamation, issued by the taotai of Shanghai, to the Kiangsu merchants proposing that the loan at interest advanced by them to the Government should, as it fell due, be handed over to the board of mercantile affairs for the promotion of mercantile enterprise, or else that they themselves take the money, giving security that it be used in the establishment of such industries. The measure is proposed in obedience to an imperial edict for the furtherance of mercantile enterprise, the idea being that as "union is strength," the enterprise will soon be fairly under way. Every factory that is established, it is stated, will stop a drain on the country's resources. Extending the system by degrees, it will secure advantages for Chinese trade, without benefiting officials in the least. Upon some of the Kiangsu merchants protesting that on account of their limited means they could not afford to invest their loans in this way, the viceroy of the two Kiang provinces sent a telegram in which he says that the Chinese merchants are short-sighted and wanting in solidarity and the capacity for united effort; that the source of wealth of the foreign merchants is derived from their capacity for united efforts which lead to the formation of large companies; that if the merchants are really in difficulties, and if it is imperative that they should receive back their ready money they shall, after careful inquiry into their circumstances, be excused from taking shares.

It will be easily understood why the merchants would allow their money to be invested in the contemplated enterprises rather than suffer an examination into their condition, which would stamp them with the taint of insolvency. The Government "request," therefore, has all the force of an edict, and it may be assumed that the merchants throughout the Empire will invest their loans to the Government, principal and interest, as they fall due, in the building of industries throughout the Empire, no restrictions being placed upon the investors as to the industries to be inaugurated, the intention being to render China as independent as possible of foreign manufacturers and producers.

It is stated in the proclamation that the loan which should revert to the merchants of Soochow has been, in accordance with Government direction and mercantile acquiescence, already handed over to the board of mercantile affairs for the purpose indicated, and that the same procedure is to follow in regard to the Shanghai merchants' loan. Thus these war loans may result in the building up of various industries throughout China.

In the inauguration and working out of these new enterprises, the Government and Government officials, it is explained, have no direct interest, further than to grant whatever necessary concessions the merchants themselves may request and the Government may see fit to allow. In another telegram to the taotai of Shanghai, the viceroy says:

> It is not necessary to make a hard and fast choice of some branch of industry, such as the manufacture of piece goods or silk filature. There is plenty of profit to be derived from other industries, such as the manufacture of foreign candles, foreign sugar, or foreign crockery. It will be a good thing for those with small capital to manufacture several kinds of articles, with a view to accustom the popular mind (to the innovation). No capital belonging to officials will be put in, nor will other merchants or officials be mixed up in the matter. Hereafter, the merchants will manage their business as they please and the officials will have no questions to ask. At present, all that the board of mercantile affairs is doing is to take charge of the money due to the merchants. As regards what works are to be established or what business transacted, the board has nothing to do. The above measures are proposed in obedience to the imperial edict for the furtherance of mercantile enterprise.
>
> * * * * * * *
>
> It is proposed to reduce the duties and likin on all the goods manufactured by these new establishments founded in obedience to imperial edict.

British Trade Route to China.[*]—Yesterday Lord Salisbury and Lord George Hamilton received at the Foreign Office a deputation from the Associated Chambers of Commerce, who asked the support of the Government for making trade routes in China, either by undertaking the construction of railways or making some reasonable guaranty of the capital required. * * * Sir Stafford Northcote, M. P., in introducing the deputation, said their object was to impress the views of the associated chambers upon the Government with regard to the trade route to China. The chambers had unanimously passed the following resolution:

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[*] From the London Times, June 13, 1896.

> That, as the connection by railway of a seaport in Burma with southwest China at Sumao is greatly required, in order to open out to British trade our new territories in the basin of the Mekong and to enable British manufacturers to compete with those of France in northern Siam and in southwest China, this association urges upon the imperial and Indian governments the necessity for such a railway leading to Sumao, either from Moulmein via Siam or from Rangoon wholly through British territory via Karenni, to be undertaken or guarantied by the Government, and also for permission to be obtained from the Chinese Government for the continuation of the railway through Sumao into the Chinese dominions on conditions not less favorable than those granted to the French for the continuation of their railways into China.

The importance of this resolution had been emphasized by the conference of associated chambers of the Empire having unanimously voted the same resolution that day.

Lord Salisbury, in the course of his reply, said:

> It does not require proof that it is a great object for us to introduce our commerce into the valley of the Yellow River. We at all times have had that as an object. At a time when so many nations of the world think that it is a great achievement of statesmen to exclude the commerce of other nations, it is more than ever important to us that we should obtain these accesses to great foreign markets. * .* * We have added considerably in the past ten years to the area of the British Empire. I do not value the mere addition of so many square miles of territory; what I value is the addition of so many free markets to the commerce of the country. Looking at the matter from that point of view, of course there is nothing that interests us more than this attempt to obtain access to the markets of China from behind, where practically we are almost without a rival, if not entirely without a rival, and where we shall tap sources of supply and give an outlet to the efforts of industry which no other arrangement by the seaboard can accomplish. * * * Therefore, with respect to much that has been said, I have this answer to make: You provide a powerful and solvent company and we will assist you so far as we can to bring it to the edge of the British territory; and when we have done so—it may seem arrogant to say it to you—I have not the slightest doubt that we shall be able to penetrate into foreign territory whenever we think it is desirable to do so. I do not believe there is, and I have never heard of, any foreign country, seeing the terminus of a railway on the other side of its border, that has refused to give facilities for that railway to enter its land. What you have to do is, therefore, to provide the means for carrying this railway on. I can assure you not only of the good will, but of the assistance of the British and Indian governments to the utmost of their power so far as it is on their own territory. Beyond that I can say nothing. That, of course, deals with the question of the railway. I have no doubt, from an engineering point of view, that Mr. Holt Hallett is most fully justified in the view that he takes, and that it would be a great benefit to the world if he could carry his railway from Raheng, in the valley of the Upper Menam, into the districts of China, and I hope he will do so. The Siamese is a very enlightened Government, and I think it is becoming more enlightened every day, and the security which has recently been conferred upon it will, I have no doubt, enormously stimulate its efforts to improve the material condition of the country under its charge. I hope very earnestly that they will give all their attention and all the assistance they can to any railway which has for its object to open the upper parts of its territory.

Openings for Trade in Dutch Guiana.*—Mr. Sydney A. Churchill, Her Majesty's consul at Paramaribo, Dutch Guiana, in a recent report to the Foreign Office, states that there is a market in Surinam for machinery, if it is properly looked after. Attention must be given to the requirements of the purchaser. It is alleged that the British manufacturer looks to the amount which the buyer has at his disposal rather than to the suitability of the articles supplied to the requirements of the purchaser. Foreign makers inquire what the machine is required for, and offer valuable suggestions as to the most suitable plant for the purpose to be effected, even sending men out to the machine-employing district and studying local requirements. Very often a suggestion of great moment is evolved by the joint combination of the practical experience of the manufacturer and the planter. Until British manufacturers show a disposition to personally visit their markets and study local requirements they will have to see foreigners successfully competing with them. At one of the biggest sugar estates, which is managed by an Englishman, it was said that all the machinery used was French, and that the manager would always recommend it because the manufacturer came out himself and made his plant a success before handing it over, remedying all defects which showed themselves, and suggesting various improvements which perfected the machinery he had supplied.

A great deal of attention has been given in recent years in Dutch Guiana to cocoa-drying machinery. Various systems have been tried experimentally. A manufacturer with a good, simple, and economical system might find some buyers in the market.

Surinam has had but one visit from a representative of a British commercial firm during 1894 and 1895, and that visit was from the chief partner in a well-known firm of general merchants of London and New York. German, American, French, and other commercial travelers are constantly visiting the market.

One of the most important items in the list of imports is that of cotton piece goods. The value of the importation in 1894 was about £53,000, and in 1895, about £62,000. Of these amounts, about £4,000 in 1894 and £10,000 in 1895 came direct from England. British Guiana in both years figures for over £5,000 in the totals, and the remainder comes almost entirely from Dutch ports, but, nevertheless, Manchester is given as the place of origin of the goods. A little care and attention to the wants of this market would stimulate and improve the trade. Cheapness is the great essential.

There should be an opening in Dutch Guiana for piece goods printed in India, and the coolie-carrying ships should be a good medium to try the market with. Indian muslins and light silks, on which the customs duty is 10 per cent, might also find a ready sale.

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* From the British Board of Trade Journal, June, 1896.

Woolen Mills in India.*—According to a statement issued by the India Office, there were six woolen mills at work at the close of 1895—one in the twenty-four parganas in Bengal, one at Cawnpore, one at Bangalore, one at Shariwal, in the Punjab, and two in the city of Bombay. The number of looms and spindles in 1895 was 531 and 17,244, and the value of the output is reported at about 256,360 rupees. The fabrics made at present consist mainly of blankets, greatcoats for the police and native soldiery, and materials for servants' clothing. Serges and other cloths and hosiery of excellent quality are also made in the Cawnpore and Dhariwal mills, but the manufacture of superior goods is as yet comparatively limited.

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*From the British Board of Trade Journal, June, 1896.

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Vol. LI. No. 191

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CONSULAR REPORTS.

AUGUST, 1896.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1896.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (*1890*).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (*1891*).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (*1891*).—Streets and Highways in Foreign Countries.

Vol. 4 (*1892*).—Port Regulations in Foreign Countries.

Vol. 5 (*1892*).—Canals and Irrigation in Foreign Countries.

Vol. 6 (*1892*).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (*1892*).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (*1892*).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (*1892 and 1893*).—Australian Sheep and Wool, and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (*1894*).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (*1894*).—American Lumber in Foreign Markets.

Vol. 12 (*1895*).—Highways of Commerce.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

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CONTENTS.

Page.

I.—HORN-COMB INDUSTRY IN EUROPE 601
(France, 601—Germany, 603—Great Britain, 604.)

II.—USE OF TECTORIUM IN EUROPE 606
(Austria, 606—Germany, 607—Italy, 609—Russia, 609—Switzerland, 610.)

III.—LINSEED-OIL TRADE IN FOREIGN COUNTRIES 611
(Argentine Republic, 611—Cuba, 615—France, 615—Germany, 619—Great Britain, 621.)

IV.—PEARL FISHERIES AND PEARL SUPPLY 622
(Arabia, 623—Australasia, 624—British Honduras, 628—Ceylon, 630—Chile, 631—Colombia, 632—Denmark, 632—Ecuador, 633—France, 633—India, 635—Italy, 641—Madagascar, 643—Mexico, 643—Netherlands India, 645—New Caledonia, 646—Nicaragua, 647—Philippine Islands, 647—Portugal, 647—Russia, 648—Siam, 648—Singapore, 649—Spain, 650—Sweden, 651—Switzerland, 651—Turkey, 653—United Kingdom, 654—Venezuela, 656.)

V.—SAMOA: GOVERNMENT, COMMERCE, PRODUCTS, AND PEOPLE ...... *Mulligan* 656

VI.—MANUFACTURE OF PALM-LEAF HATS IN MALAGA .... *Burke* 748

VII.—STOCK AND GRAIN SPECULATION IN GERMANY .... *Moore* 750

VIII.—DRIED FRUITS IN SWITZERLAND .... *Germain* 753

IX.—MANUFACTURE AND USES OF CARBONIC ACID IN GERMANY .... *Mason* 756

X.—TARIFF OF BERMUDA 762

XI.—DUBLIN ELECTRIC TRAMWAYS .... *Ashby* 764

XII.—AMERICAN GOODS IN IRELAND .... *Taney* 768

XIII.—NOTES (The World's Wine Production—Changes in the Italian Tariff—Wine Apparatus Exhibition at Catania—Duties on Wines and Liquors in Hawaii—A New Silk Market in Japan—An American Pulp Mill in Sault Ste. Marie—Anticipated Results of the Sicilian Sulphur Trust—American Goods in Belgium—American Hardware in Belgium—Farming Implements in Belgium—The Jute Industry of Europe and the Orient—Purchase of the Island of Anticosti—Steam Coast Navigation in Venezuela—Horticultural Exhibition at Hamburg—Consular Reports Transmitted to Other Departments) 770

REPORTS BY COUNTRIES.

ARABIA: Page.

Pearl fisheries in........ 623

ARGENTINE REPUBLIC:

Flax and flaxseed in........ 611
Linseed oil in........ 613

AUSTRALIA AND TORRES STRAITS:

Pearl fisheries in........ 624

AUSTRIA:

Use of tectorium in........ 606

BELGIUM:

American goods in........ 774
American hardware in........ 775
Farming implements in........ 776

BERMUDA:

Tariff of........ 762

BRITISH HONDURAS:

Pearl fisheries in........ 628

CANADA:

An American pulp mill at Sault Ste. Marie........ 773
Purchase of the island of Anticosti........ 777

CEYLON:

Pearl fisheries in........ 630

CHILE:

Pearl fisheries in........ 631

COLOMBIA:

Pearl fisheries in........ 632

CUBA:

Linseed oil in........ 615

DENMARK:

Pearl fisheries in........ 632

ECUADOR:

Pearl fisheries in........ 633

EUROPE:

Horn-comb industry in........ 601
Jute industry in, and in the Orient........ 776
Use of tectorium in........ 606

FRANCE:

Horn-comb industry in........ 601
Linseed oil in........ 615
Pearl market and supply in........ 633

GERMANY:

Horn-comb industry in........ 603
Horticultural exhibition at Hamburg........ 777
Linseed oil in........ 619
Manufacture and uses of carbonic acid in........ 756

GERMANY—Continued. Page.
- Stock and grain speculation in 750
- Use of tectorium in 607, 609

HAWAII:
- Duty on wines and liquors in 772

INDIA:
- Jute industry in, and in Europe 776
- Pearl fisheries in 635, 640

IRELAND:
- American goods in 768
- Dublin electric tramways 764

ITALY:
- Anticipated results of the Sicilian sulphur trust 773
- Pearls and pearl fisheries 641
- Tariff changes in 771
- Use of tectorium in 609
- Wine apparatus exhibition at Catania 771

JAPAN:
- A new silk market in 772

MADAGASCAR:
- Pearl fisheries in 643

MEXICO:
- Pearl fisheries in 643, 644

NETHERLANDS INDIA:
- Pearl fisheries in 645

NICARAGUA:
- Pearl fisheries in 647

NEW CALEDONIA:
- Pearl fisheries in 646

PHILIPPINE ISLANDS:
- Pearl fisheries in 647

PORTUGAL:
- Pearl fisheries in 647

QUEENSLAND:
- Pearl fisheries in 628

RUSSIA:
- Pearl fisheries in 648
- Use of tectorium in 609

SAMOA:
- Government, commerce, products, and people of 656

SIAM:
- Pearl fisheries in 648

SINGAPORE:
- Pearl fisheries in 649

SPAIN:
- Manufacture of palm-leaf hats in Malaga 748
- Pearl fisheries in 650

SWEDEN:
- Pearl fisheries in 651

SWITZERLAND:
- Dried fruits in 753
- Pearl market in 651
- Use of tectorium in 610

TURKEY: Page.
Pearl fisheries in........ 653
UNITED KINGDOM:
Horn-comb industry in........ 605
Linseed oil in........ 621
Pearl market and pearl supply........ 564
VENEZUELA:
Pearl fisheries in........ 656
Steam coast navigation in........ 777
WORLD:
Wine production of........ 770

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland)).	do	Dollar	1.00	
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92.6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands§	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1893.				1894.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.45,7	$0.46,4
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
China*	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.67,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.75,3	.76,3
	Tien-Tsin tael.	....	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
Ecuador	do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.45,7	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.21,7	.22
Japan†	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.49,3	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.49,7	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	....	....	....	....
Russia‡	Silver ruble	.49,1	.48,8	.48,3	.42,5	.51,6	.46,5	.45,7	.46,4
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.41,3	.37,2	.36,6	.37,1
Venezuela §	Silver bolivar	....	....	....	....	.46,5	.41,9	.41,3	.41,8

Countries.	Monetary unit.	1895.				1896.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1,	April 1.	July 1.
Bolivia	Silver boliviano	$0.45,5	$0.44,1	$0.48,6	.48,6	$0.49,1	$0.49,3	$0.49,7
Central America	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
China*	Shanghai tael	.67.3	.65,2	.71,8	.71,8	.72,5	.72,9	.73,5
	Haikwan tael	.74,9	.75,6	.80	.80,0	.80,8	.81,2	.81,9
	Tien-Tsin tael.	.71,4	.69,2	.76,1	.76,2	.76,9	.77,3	.78
	Chefoo tael	.70,4	.68,3	.75,1	.75,2	.75,9	.76,3	.76,9
Colombia	Silver peso	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
Ecuador	do	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
India	Silver rupee	.21,6	.21,0	.23,1	.23,1	.23,3	.23,4	.23,6
Japan†	Silver yen	.49,1	.47,6	.52,4	.52.4	.52,9	.53,2	.53,2
Mexico	Silver dollar	.49,5	.47,9	.52,8	.52,8	.53,3	.53,6	.54
Persia	Silver kran	....	....	.08,9	.09,0	.09	.09,1	.09,2
Peru	Silver sol	.45,5	.44,1	.48,6	.48,6	.49,1	.49,3	.49,7
Russia‡	Silver ruble	.36,4	.35,3	.38,9	.38,9	.39,3	.39,5	.39,8
Tripoli	Silver mahbub	.41,1	3.9,8	.43,8	.43,8	.44,3	.44,5	.44,9

* China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

§ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1893.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅖ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1 6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4 5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (100 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LI. AUGUST, 1896. No. 191.

THE HORN-COMB INDUSTRY IN EUROPE.

On February 1, 1896, the following instruction was sent to the consul-general at Paris:

> A member of the House of Representatives (Hon. William H. Moody) from Massachusetts requests the Department to secure, for a constituent, information relative to the horn-comb industry in France. The applicant is indefinite as to the location of the industry, merely stating that there is a town in the south of France practically owned by comb manufacturers.
>
> The Department hopes that you will be able to locate this town, and any other where the industry is carried on, and communicate with the nearest consular officer with the view of obtaining reports thereon.
>
> The information desired covers the following points: The number of horn-comb manufacturers in the district, the names of the manufacturers and the number of hands employed, the annual value of their output and the amount of the annual pay rolls, the weekly wages paid to employees, and the parts of the manufacture performed by females, etc.

Representative Moody's correspondent having stated that the only centers of the horn-comb industry outside of France known to him were Edinburgh, York (Leeds), and Nuremberg, Germany, the consuls at those places were directed to make the necessary inquiries and forward reports upon the points covered in the instruction to the consul-general at Paris. The Dundee consulate (for the Aberdeen industry) was added to the list of places by the Department.

The following are the replies received in answer to the foregoing instruction.

FRANCE.

In accordance with the instruction dated February 1, 1896, I have made every effort to secure information relative to the horn-comb industry in France.

The principal centers for dressing and fine combs are Oyonnax (Ain), for the cheap class, and Ezy (Eure), for the finer grades. Fancy-back and other combs for ladies are chiefly manufactured at Oyonnax and Paris.

At Oyonnax and its vicinity are centered about one hundred so-called manufactories of these goods. Few of them, however, are bona fide factories owned by actual manufacturers and employing workmen on their premises. The combs are largely made by piecework, the manufacturers furnishing the raw materials to the workmen, who do the work at their homes.

Oyonnax is situated in the consular district of Lyons. Mr. Hyde, the efficient consul at Lyons, has made every effort to secure the data requested in the instruction, but has not succeeded, owing to the disinclination of the manufacturers to furnish the same. There is an association of comb manufacturers at Oyonnax, and Mr. Hyde has been in communication with the president of the same, but thus far without results. I attach hereto a list of the manufacturers of Oyonnax, as compiled from the departmental directory for 1896, a standard authority.

The better grades of horn combs, including those manufactured from the horn of India cattle, known to the trade as "buffalo-horn combs," are manufactured at Ezy. The Ezy factories are more important, and more workmen are employed on the premises than at Oyonnax, although at Ezy piecework is also done in chambers to a certain extent.

The manufacturers at Ezy, which is in the consular district of Rouen, have declined to give the details regarding their industry, although asked for the same by the president of the Chamber of Commerce at Rouen, at the request of Consul Bigelow and Vice-Consul Dellepiane. They say that this information could only be desired for the use of actual or prospective competitors in the trade.

These gentlemen inform me that no invoices from the comb manufactories of Ezy are ever presented at their office. A list of the principal manufacturers at Ezy is attached to this report.

In addition to those of Oyonnax and Ezy, isolated factories exist in several departments, and a few combs of specially fine workmanship are made in Paris, but the great bulk of the industry is carried on in the two towns named. The crude material is obtained from France, Hungary, and the United States for the ordinary goods, while the buffalo horn is imported from Siam, India, and other countries in the far East. Horn combs of French manufacture are not largely exported to the United States. The larger proportion is consumed at home, and the principal export markets are found in the various countries of South America.

The foregoing embraces all the facts I have been able to obtain on this subject, with the cooperation of the consular officers at Lyons and Rouen, and after careful inquiry of prominent dealers in Paris. If any further data can be procured, I shall transmit it to the Department.

Horn-comb manufacturers of Oyonnax.—Baud Frères, Billoud Fils, Bollet, Coché, Bonaz fils ainé, Convert & Maissiat, Doyonnax, Levrat (V^{ve} Cyrille), Louis Levrier, Victor Montain, Camille Thomas, Voiturin-Carrier.

Horn-comb manufacturers of Ezy.—Ulysse Lavertu, Emile Lefevres & Co.,

E. Marié (depot for samples, 13 Rue Tracy, Paris), Bernot-Ledru, Boucher Massay, Clement-L'Hermeroult fils, Alex. Fontaine, Jeuffroy et fils, Mr. Joannot fils (house at 89 Boulevard Sebastopol, Paris), L. Marechal & Brun, (pressers of horn).

Horn-comb manufacturers of Paris.—J. Bellanger, 183 Rue St. Denis; Benot, 15 Rue Vivienne; B. Bernadac, 34 Rue du Faubourg St. Martin; Bez Père & Fils, 98 Boulevard Sebastopol; C. Cormier, 10 Boulevard Bonne-Nouvelle; Dumas-Zorgo, 247 Rue St. Martin; H. Gareaux, 8 Rue Pastourelle; A. Massue, 15 Rue des Gravilliers; G. Maury, 58 Rue Turbigo.

SAMUEL E. MORSS,
Consul-General.

PARIS, *April 24, 1896.*

GERMANY.

The horn-comb industry in the city of Nuremberg is carried on by a few firms; their employees aggregate about 370. The largest of these firms is that of Gottfried Probst, in Schweinau, near Nuremberg. This firm employs 300 persons, about 100 of whom are females. The largest part of the firm's raw material is imported direct from Brazil, China, and Calcutta, only a small quantity being obtained from the home market. The firm employs a "werkmeister," who is compensated at the rate of 40 marks ($9.52) per week, and two overseers, each of whom receives 25 marks ($5.95) per week. All the work done in this factory is piecework.

All the employees, both male and female, are paid according to the quantity of goods turned out by them during the week. The wages, therefore, vary much; the most industrious earn as much as 30 marks ($7.14) per week, while those who are less industrious earn from 18 to 20 marks ($4.28 to $5.71) per week. Females earn a weekly stipend of from 10 to 11 marks ($2.38 to $3.62).

New workmen serve a sort of apprenticeship for three weeks, at the rate of about 17 marks ($4.04) per week or less, but after the expiration of that time, they are required to do piecework.

The salaries of bookkeepers, clerks, warehousemen, and packers I have been unable to obtain.

The largest part of this firm's production is sold in Germany; after that, the European continent; and, finally, the eastern and western countries, like India, China, Japan, South America, United States, etc.

The export of this firm to the United States is comparatively little, amounting to only about 30,000 marks ($7,140) in 1895. Their export trade with India is considerable.

The next largest manufacturer in this consular district is Jean Wagner, of Nuremberg. This manufacturer employs 42 persons (6 of whom are females), who are employed under the piecework system. The wages are about the same as those already quoted. Eighty per cent of the crude material used by this manufacturer is of foreign origin, and is purchased through importing houses in Rotterdam, Mayence, Hamburg, etc. The bulk of his manufacture goes to India and South America, but he exports also to all other countries. His trade with the United States is small, which is accounted for by reason of large factories in this line in the United States and the strong competition which is made by the comb factories at Aberdeen, Scotland.

There are other manufacturers in this city engaged in this line, but in a much smaller way, and they dispose of their goods mostly through the commission and export houses in this city and the neighboring city of Fürth.

WM. J. BLACK,
Consul.

NUREMBERG, *April 17, 1896.*

GREAT BRITAIN.

ABERDEEN.

Immediately upon receipt of instruction of February 1, 1896, asking me to furnish certain statistics concerning the horn-comb industry as carried on at Aberdeen, I communicated with the consular agent at that port and requested him to furnish me with the particulars necessary for the preparation of my report. In his reply to my letter, he stated that the manufacturers (from whom part of the information must necessarily be derived) expressed an unwillingness to give any information in regard to the industry, and he suggested that, perhaps, if I could see them personally, they might be induced to comply with his request.

There are two firms in Aberdeen engaged in the horn-comb industry—S. R. Stewart & Co., 40 Hutcheon street, and the Rosemount Company, Limited (formerly C. G. Elrick & Co., Limited), Forbes street. Accordingly, I went to Aberdeen and had an interview with a representative of each firm. Messrs. Stewart & Co. absolutely declined to give any information whatever, and the representative of the Rosemount Company finally agreed to lay the matter before the board of directors at a meeting which was held on the 20th of the present month, since which time I have had a letter stating that they also refuse to give any information. The consular agent at Aberdeen, acting under my instructions, has endeavored to get the information from other sources; but, owing to the restricted scope of the industry, he found it impossible to secure the information which the manufacturers withheld.

The value of combs declared at Aberdeen for exportation to the United States during the past five years has been as follows:

Quarter ending—	1891.	1892.	1893.	1894.	1895.
March 31	$7,965.86	$3,417.60	$4,471.34	$4,859.62	$13,345.24
June 30	4,241.60	3,627.36	6,342.68	3,174.20	5,429.22
September 30	3,113.76	5,827.30	1,770.64	5,882.88	5,586.90
December 31	7,317.96	11,105.54	5,796.26	11,634.98	5,982.70
Total for year	22,639.18	23,977.80	18,380.92	25,551.68	30,344.06

This represents the shipments of S. R. Stewart & Co., which is the larger concern. The Rosemount Company also have a considerable indirect trade, their goods being first sold to English houses who export.

The imports of horns and horn piths during the calendar year 1895, as supplied by the collector of customs at Aberdeen, was as follows:

Whence imported.	Horns.	Horn piths.
	Tons.	*Tons.*
Hamburg	43.15	
Rotterdam	44.12	
Mercedes		39
Fray Bentos		2.1
Paysandu		29
Total	88.7	70.1

There is only one other firm in Great Britain, so far as I have been able to ascertain, who are engaged in the same industry, their factory being located at or near Sheffield.

It is the general opinion that the business is profitable, but there are no means of knowing to what extent, as, although the Rosemount Company is a corporation, its stock is not on the market, and no statements are published, it being what is known in this country as a private corporation.

The wages paid certain of the employees by the proprietors of the horn-comb factories are probably about the same as those paid by other firms who have similar employees, the rates of which are as follows: Superintendents, $15 to $20 per week; bookkeepers, $400 to $600 per annum; foremen, $7.50 to $10 per week; machinists, $6 to $7.50 per week.

I regret that the information furnished is not more specific, but trust that it will be of some service to the parties instituting the inquiry.

JOHN M. SAVAGE,
Consul.

DUNDEE, *March 25, 1896.*

LEEDS.

Upon receiving the Department's instruction of February 1, 1896, I determined to wait until I could find leisure to go to York and personally try and obtain the information desired, well knowing from experience in similar cases that writing to the parties from whom information was desired would result in an absolute refusal to give it.

I went to York a few days since and called on the only firm that I have personal acquaintance with, viz, Messrs. G. Steward & Sons, who ship occasionally small quantities of their combs to the United States. I found one member of the firm at home and explained fully what I wanted, and, at his request, left a memorandum of the information desired to be submitted to his brother, the other partner, who was away.

I have received their reply in writing, and also verbally from one of the partners, who came in to-day to declare an invoice. They virtually decline to give any information of value, saying that "the comb industry, being carried on only by one other firm in York, and probably a couple more in other parts of Great Britain, causes great trade rivalry, and fear that any of the processes of manufacture may become known to competitors in the same business." The premises are kept carefully guarded from anyone going into them, and every effort is made to keep all matters absolutely secret. Hence, I find I am unable to report anything of value, the two or three little items given me by the Stewards being worthless.

NORFLEET HARRIS,
Consul.

LEEDS, *April 14, 1896.*

USE OF TECTORIUM IN EUROPE.

The following are replies to instructions from the Department to consular officers relative to the use of tectorium, as a substitute for glass, in Europe.

AUSTRIA.

[Report by Consul-General Judd, of Vienna.]

Tectorium has been sold, in small quantities, for the last two or three years in Vienna, by the firm of Gustav Pickhardt, of Bonn, Collner Chausseė 149, Germany, but it is not manufactured in Austria.

It was shown at the Vienna Exhibition of 1873 and at the Paris Exhibition of 1889, but its existence is not known to the general public, and as a commercial product it is still an experiment.

I have been informed by a manufacturer of glass that tectorium, when exposed to the direct rays of a warm sun becomes sticky, so that the dust adheres to the surface and the substance loses its translucent qualities in a comparatively short time.

Tectorium consists of a galvanized iron web covered with a gelatinous substance, and is translucent, but not transparent.

The manufacturer describes tectorium as a substance that (1) can be bent without being broken; (2) is both tough and flexible; (3) is not softened by the rays of the sun; (4) is nonsoluble; (5) is not affected by severe cold; (6) is a bad conductor of heat; (7) is well adapted for roofs, on account of its extreme lightness; (8) when exposed to the sun, it loses its original yellowish color in time and becomes harder and more durable; (9) can be made, by a very cheap process, to imitate stained glass in such a manner that it can not be recognized from the genuine article; (10) can be cut by shears, nailed to wood, and transported without danger; (11) can be easily repaired in case it is cut; (12) does not break; and (13) is well adapted for factory windows and skylights for hothouses, market halls, verandas, transportable buildings, and for roofing.

A roll 7 meters long and 120 centimeters wide costs $1.20 per square meter, and samples are sent free of charge.

It is hardly likely that a substance possessing the valuable qualities claimed for tectorium should be so comparatively unknown after having been on the market for the last twenty-five years.

GERMANY.

[Report by Consul-General Mason, of Frankfort.]

In compliance with the instruction of the Department, I have to report that tectorium is a translucent, infrangible substitute for window glass, and as such is used for skylights, conservatories, verandas, storm windows, transparencies of various kinds, and in street windows where it is desirable to admit the light while excluding observation from without. It was invented twenty or twenty-five years ago, received medals at the Antwerp Exposition of 1885 and other international exhibitions, and was the material adopted for the roof windows of the London Aquarium, which have an area of 97,600 square feet.

Tectorium is a sheet of tough, insoluble gum—said to be bichromated gelatin—about one-sixteenth of an inch in thickness, overlying on both sides a web or network of galvanized iron or steel wire, the meshes of which are, in the samples* herewith submitted, one-eighth of an inch square. Both surfaces of the tectorium in ordinary use are apparently covered with a varnish of boiled linseed oil, and it feels and smells similar to the oiled silk that is used in surgery and for sweat bands in summer hats. It is lighter than glass of equal thickness, is tough, pliant, and practically indestructible by exposure to rain, wind, hail, or any shock or blow which does not pierce or break the wire web by a violent thrust. It may be bent in any desired form and fastened in position by crimping, nailing, or with putty like ordinary glass, and, when punctured, it may be easily repaired.

Its translucence is about the same as that of opal glass; its color, a greenish amber yellow, which fades gradually to white from exposure to the sun, so that while arresting the direct rays of sunshine, it transmits a soft, modulated light which is said to be well adapted to hothouses and conservatories. It is a poor conductor of heat and cold, and thus preserves a more equable temperature than glass in rooms containing growing plants. Its surface is well adapted for painting in oil colors, and it is used for illuminated windows, signs, and transparencies in which strength, lightness, and immunity from breakage are essential, especially in arched, curved, or irregular surfaces. The only objections which are urged against tectorium are that it is more or less inflammable, and that in very warm weather the outside surface is sometimes softened until dust will adhere to it, but this may be removed by wiping or washing, a service that is usually performed by the rain in exposed situations.

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*Samples filed in the Bureau of Statistics, Department of State.

Tectorium is sold by various dealers in Germany, but the principal manufacturers are Messrs. Otto Köhsel & Son, No. 25 Neue Königsstrasse, Berlin, and Gustav Pickhardt, at Bonn, who has an export branch house in Brussels. It is an English invention, and, so far as can be ascertained, is not patented in Germany. It is usually made in lengths of 7 meters (22.9 feet) and either 24 or 48 inches wide. It costs at the factory, for small quantities, $1.19 per square meter (about 10 cents per square foot). When ordered in quantities of ten rolls or more, a discount of 5 per cent from this rate is allowed by Messrs. Köhsel, while Mr. Pickhardt gives a wholesale price of 90 cents per meter in large orders for export. The lengths are rolled like carpet or oilcloth, and are packed in wooden cases for shipment. When obtained from retail dealers in small quantities, tectorium costs in this country from $1.42 to $1.66 per square meter, that is, about 12 to 13 cents per square foot. This renders it a rather costly material for ordinary hothouses, and for this reason it is used mainly in only the finer class of conservatories, which are built into and form part of handsome dwellings. The architect of the London Aquarium, where it has been long in use, reports that it has effected an important economy through its immunity from breakage, which, in the case of large roofs of glass, are so frequent and so expensive to repair.

Fensterpappe.—For ordinary hotbeds and forcing houses, such as are used by most florists and market gardeners, the Germans have another and far cheaper substitute for glass in the so-called "Fensterpappe," which is a tough, strong manila paper, that may be stretched on large sashes or frames and saturated by painting the exposed surface with boiled linseed oil until it becomes translucent and impervious to water. Such paper is supplied by various dealers and manufacturers, among others by Mr. S. Jourdan, at Mayence, who has a branch house at Berlin and one (E. Roelker & Sons) at 136 Twenty-fourth street, New York. The paper costs at wholesale in Germany $4.76 per roll 100 meters in length by 1 meter in width, equal to 1,220 square feet in each roll, which would make the price about 3½ cents per square yard. There is no difficulty or secret about its preparation or use. Light wooden frames about 40 inches in width and of any desired length are provided, and covered with the paper, which is fastened by nailing at the edges and then painted with ordinary boiled linseed oil until the paper is so saturated that the last coat of oil forms a smooth, glistening surface like varnish. As soon as dry, which requires but a short time if the work is done in summer, the frame is ready for use. It admits sufficient light for growing plants, does not require to be shaded in hot sunshine, is light, durable, secure against breakage by hail or other ordinary accident, and, taking everything into account, is said to be about one hundred times cheaper than glass. It is largely used by florists and market gardeners in the district of Frankfort, and their general verdict is strongly in its favor, although for handsome conservatories, skylights, balconies, etc., it possesses less durability and none of the neatness and elegance of tectorium.

Hornglas.—Finally, there is a new product, called "Hornglas," which has been recently patented and put on the German market by Messrs. Pastini & Co., of Niederlahnstein-on-Rhine. Hornglas resembles tectorium in appearance, with the difference that it is thinner and consequently lighter in weight, and the insoluble gelatin with which the wire gauze is covered is whiter and more nearly transparent than tectorium, although it may be colored red, green, blue, or any other tint that may be desired for a special purpose. It is manufactured in two qualities, designated respectively "A" and "M"—samples of which are herewith inclosed*—the latter being made of heavier wire and with larger meshes than the former. It is cut into lengths of 7 meters (22.9 feet) by 47 inches in width, and is sold at wholesale for $1.27 per square meter, or something more than 10 cents per square foot. The special advantage claimed for Hornglas is that it does not soften under sun heat, and is therefore adapted to use in any climate, without the danger of becoming soft and adhesive so as to retain dust and dirt. Its uses and general characteristics are similar to those of tectorium.

BERLIN.

[Report by Consul-General de Kay.]

Local patent agents state that tectorium is a substitute for glass in hot-houses, verandas, roofs of stores, etc., where considerable, but not perfect, transparency is necessary. But I give this as hearsay, since the article can not be found for sale in Berlin. It is fabricated at Hohenlimburg, Hagen, Westphalia, by the firm of J. C. Koch, whose correspondents in New York are Messrs. A. Belmont & Co. I wrote at once to J. C. Koch, but have received no answer.

ITALY.

[Report by Consul-General Jones, of Rome.]

On receipt of Department's instruction requesting information relative to the manufacture, sale, and use of tectorium, I immediately wrote to the Italian Minister of Agriculture, who replied as follows:

> Tectorium has been used for some time in Italy, but there exists no manufactory of this product in the Kingdom. We import tectorium principally from Germany.

RUSSIA.

[Report by Consul-General Karel, of St. Petersburg.]

The statement in the public press in the United States that tectorium was used in Russia as a substitute for glass in several instances is erroneous. It is not manufactured or used, and not even known, in Russia for that purpose. Russia has two substances which are called tectorium, but they are of different nature and used for a different purpose from that mentioned, as will be seen from the explanation below. I have inquired of several Russian glass manufacturers and merchants as to the use of tectorium as a substitute for glass in certain cases, and all of them replied that such an article was unknown to them, except one, who stated that he heard such a thing was manufactured in Germany, but never saw it, and could give no explanation.

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*Samples filed in Bureau of Statistics, Department of State.

I then applied to the Russian Department of Trade and Manufacture for information on the subject, and they said: Under the name of tectorium, a special kind of stucco plaster, used for interior walls, to mineralize and consolidate their smooth surface (a sort of enameled color), is known in Russia; and under the same name is also known a liquid composed of silicic acid and fluoric magnesium, which is used for fortifying outside walls of all kinds of buildings and field stones from the influence of the atmosphere. This kind of tectorium liquid was also used for the filling of the cracks in the monument of Emperor Alexander I, which stands in the front of the Winter Palace in this city, and which is probably the most remarkable monolith of granite in existence. It is a cylindrical pillar of one solid piece of granite 78 feet high and 12 feet in diameter.

SWITZERLAND.

[Report by Consul-General Richman, of St. Gall.]

Tectorium is a texture of wire coated with a translucent gelatin compound, and is designed, in a measure at least, as a substitute for window glass. The article, however, is not manufactured in Switzerland, but at Hohenlimburg, Westphalia, Prussia. In Switzerland, the article is sold by Messrs. Bachofen & Hartmann, of Zurich. This firm say that the value of tectorium for skylights, hall roofing, windows for factories, outhouses, and verandas is recognized, but that as yet builders have not full confidence in it, and hence its use and sale are limited. It is made in widths 23¾ and 47½ inches, shipped in rolls 23 feet in length, and sold at $1.85 per square meter (1,550 square inches). Among the advantages claimed for this substitute for glass are that it is flexible, can be cut to any size or shape, does not break or splinter, and, if punctured, can easily be mended. It should, however, be stated that, though tolerably translucent, it is not transparent, and at a high temperature the gelatin compound is apt to melt. I transmit herewith a sample of tectorium kindly furnished me by Mr. W. H. Kemmler, United States consul at Horgen.*

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*Sample filed in the Bureau of Statistics, Department of State.

LINSEED-OIL TRADE IN FOREIGN COUNTRIES.

On February 3, 1896, the following instruction was sent by the Department to the consular officers at Buenos Ayres, Habana, Hamburg, London, and Marseilles:

> Linseed-oil dealers in the United States, who are desirous of extending their trade in foreign countries, have requested the Department to secure, through your good offices, information covering the following points: Price at which the raw oil is sold; terms of payment, and discount, if any, for cash; quantities of oil manufactured; imports of oil, and whence imported; best manner of introducing American oil.
>
> Your reply will be published in the CONSULAR REPORTS for the information of all who may be interested in the subject under consideration.

The following reports were received in answer to the foregoing instruction.

ARGENTINE REPUBLIC.

I.—FLAX AND FLAXSEED.*

The growing of flax in the Argentine Republic is a branch of agriculture of comparatively recent date. The commencement of its cultivation as a regular crop is much subsequent to that of wheat. In the Argentine national census of 1875, while the wheat harvest has a distinct mention as an expanding industry, the harvest of flax is lumped among "other crops." The little which at that date was grown in the country was made into oil and consumed here at home. Since then, however, the growing of flax has come to the front, especially in the province of Santa Fé, where, in 1880, there were about 15,000 acres in flax; in the province of Buenos Ayres, perhaps half that number of acres. In 1882, the production had so increased that, besides supplying the home demand, 7,000 tons were exported. In 1883, the exports of flaxseed amounted to 21,500 tons. In 1893, the exports reached 72,149 tons, valued at $2,887,975, probably as much more being consumed in the country in the manufacture of linseed oils. In 1894, the area in flax cultivation in the province of Santa Fé was estimated to be 540,000 acres and the production 320,000 tons of seed; and in the province of Buenos Ayres, the area in flaxseed had increased from 60,000 acres in 1880 to 250,000 acres in 1894, the great bulk of the crop of seed being manufactured into oil here at home, though the exports that year amounted to 104,435 tons, valued at $3,583,459. I have not the complete returns for 1895, but for the nine months ended September 30 the shipments amounted to 273,354 tons, valued at $8,200,524. These figures sufficiently indicate that the harvest of linseed is each year becoming more important and more valuable.

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*The first part of this report, "flax and flaxseed," was prepared by Consul Baker previous to his receipt of the Department instruction relative to linseed oil, and was received at the Department in separate form, but, by the consul's request, contained in his report in answer to the instruction, both reports are used.

In the past, no use has been made of the flax stalks, owing in part to the lack of facilities for extracting the fiber. More recently, however, there has been some demand here for the fiber, and now no inconsiderable portion is saved, with assurances that better appliances for retting and hackling it will soon be in operation. Last year, according to the Prensa (newspaper), upwards of 90,000 tons of the fiber were saved, though I think the figures are exaggerated. The fiber is mostly used in the manufacture of thread, cordage, coarse linen, and bagging. The exports of the fiber last year amounted to 445 tons.

The bulk of the exports of flaxseed goes to Great Britain, Belgium, and France. The following table shows in detail the different countries to which the surplus of 1893 and 1894 were sent:

Country.	1893.	1894.
	Tons.	*Tons.*
Germany	4,970	8,149
Belgium	13,086	15,631
Brazil	9,854	7,958
Spain	12	1
France	18,102	5,911
Italy	223	1,528
Holland	....	1,442
Portugal	331	145
Great Britain	24,826	62,828
Uruguay	5	5
Not named	780	336
Total	72,199	104,434

The exports of linseed cake for the years 1893 and 1894 were as follows:

Country.	1893.	1894.
	Tons.	*Tons.*
Germany	550	1,314
Belgium	1,221	1,367
Brazil	30	17
France	1,268	2,837
Italy	110	....
Great Britain	185	1,350
Total	3,364	6,885

There were no exports of the flax fiber during the year 1893. The shipments for 1894 were as follows: Belgium, 279 tons; Brazil, 1 ton; France, 151 tons; Great Britain, 14 tons; total, 445 tons.

It will be observed that the United States do not figure in these tables at all. During the years 1893 and 1894 there were no shipments to the United States; in 1889, however, linseed to the value of $301,181 was invoiced at this consulate for New York, and in 1890 to the value of $35,382. During the year 1895 the invoices of linseed from this port to New York amounted to $786,507 in gold, but the full details of the exports of that year have not yet been published by the Argentine Government.

In regard to the crop of the present year, the reports which have been received are not very reassuring. There is an increased acreage, but the weather, owing to excessive rain, has not been favorable to the maturing of the seed, and it is generally conceded that the harvest will be less than the year previous. There is this to be said, in regard to the cultivation of flax in the Argentine Republic—it is not a certain crop. Sometimes it is too much rain, sometimes it is too little rain, sometimes it is an insect, which eats the blooms and destroys the germs, and sometimes it is the locust, which destroys the whole plantation.

The flax industry of the Argentine Republic, however, is capable of almost unlimited expansion, as all parts of the great provinces of Buenos Ayres, Santa Fé, Entre Rios, and Cordoba, and the territories of Formosa, Chaco, and Rio Negro are well adapted to the growth of flax. It is estimated that 1 acre of the flax will produce from $20 to $35 worth of the seed and about 2 tons of fiber, worth from $4 to $5 per ton.

The price of linseed is quoted on the Buenos Ayres exchange per 100 kilograms, and that quantity of the seed is now worth about $3 in gold.

The duty on vegetable oils imported into the country is 10 cents per kilogram. There is no export duty on linseed. The house which has of late been doing the largest business in linseed and canary seed with the United States is that of Messrs. Bunge & Borne, of this city.

2.—LINSEED OIL.

I have no means of determining the amount of linseed consumed in the country; but there are now more than twenty-five oil mills in the Argentine Republic, whose producing capacity amounts to 40 tons of oil per day, or, say, 12,000 tons per annum. These mills, however, are not confined to the manufacture of linseed oil. They also turn out olive, peanut, turnip, and colza, or rape-seed, oil. The product of olive oil alone last year was estimated to be 5,000 tons. So far as linseed oil is concerned, the country is now quite able to produce all that it requires, and each year shows a decreasing importation. In 1892, the imports of linseed were 792 tons; in 1893, they were 290 tons; in 1894, they were 137 tons; and for nine months of 1895, they were 109 tons. Meanwhile, the exports of linseed oil are becoming quite an important item in the commerce of the country. In 1892, the shipments amounted to 809 tons; in 1893, to 1,236 tons; and in 1894, to 424 tons—a falling off, which was owing to the partial failure of the crop.

The exports of linseed oil during the years 1893 and 1894 were as follows:

To—	1893.	1894.
	Kilograms.	*Kilograms.*
Belgium	585,081	....
France	67,770	31,226
Great Britain	383,683	393,332
Total	1,236,534	424,558

The oil mills have also found in Europe a market for the refuse, or oil cake, and there are now regular shipments of that article. In 1892, the exports were 4,366 tons; in 1893, 3,364 tons; in 1894, 6,885 tons; and for nine months of 1895, 6,339 tons.

The linseed-oil manufacturers and dealers in the United States inquire if there are opportunities for extending their trade to the Argentine Republic. In reply, I have to say: In view of the large quantity of that oil now produced in the country, and which is already greater than the necessities of the home market, the prospects would not seem to be very promising. The linseed-oil industry here has already assumed such proportions that the demand for the foreign article is growing less and less every year. As we have seen, the trade returns show that the Argentine Republic already exports more linseed oil than it imports. Thus, in 1893, it imported 280 tons and exported 1,236 tons; in 1894, it imported 137 tons and exported 424 tons. The trade returns of the last year have not yet been published. The importations of the oil in 1893 and 1894 came from the following countries:

From—	1893.		1894.	
	Quantity.	Value.	Quantity.	Value.
	Kilograms.		*Kilograms.*	
Germany	3,968	$499	1,154	$302
Belgium	9,101	1,820	3,350	398
United States	4,626	815	4,309	701
France	1,822	295	....	....
Italy	10,933	1,802	1,400	199
Great Britain	248,160	49,272	117,240	17,681
Not named	1,395	539	9,591	1,442
Total	280,003	55,042	137,254	20,723

Thus it will be seen that nearly the entire importations of the oil into the country came from Great Britain. The custom-house valuation of the oil is 20 cents per kilogram. The duty in 1894 was 12 cents per kilogram; for the present year it is 10 cents per kilogram. On crude oils of the weight of tar the duty is 5 per cent ad valorem.

The oil that comes to the Argentine Republic is put up in wooden casks, and also in drums or cylinders holding 4 and 5 gallons, respectively.

In wooden casks, the price for crude oil is about $5 (paper currency) per 10 kilograms, and for boiled oil about $5.50 (paper) per 10 kilograms; in drums of 4 gallons, the price for crude and boiled is $9.50 (paper), and in drums of 5 gallons about $11 (paper). The value of the paper dollar at present is about 30 cents in gold. The terms of payment are conventional. That from Great Britain is always sold on credit; but, of course, there would be a discount for cash payment.

I can hardly say what would be the best method of introducing American oil, though certainly, unless there were a special agent here to dispose of it, it would have to be done through dealers in that line of goods.

E. L. BAKER,
Consul.

BUENOS AYRES, *March 5, 1896.*

CUBA.

Referring to the Department's instruction of the 3d instant requesting information for the linseed-oil dealers in the United States, I have to say that from inquiries made of the leading importers of the article in this city, I learn there is no market here for linseed oil of American manufacture or of other foreign countries, owing to the differential duty favoring the same article of Spanish production, which is imported here from Spain in barrels of about 50 gallons each and sold at $9.50 to $10 per quintal (100 pounds) for cash, with 8 per cent discount, and pays 15 per cent duty on the tariff valuation of $10.05, or, say $1.50 per 100 kilograms (220.46 pounds), while that from foreign countries pays on the same weight $10.05, plus 15 per cent, making $11.55, giving thereby a protective duty in favor of Spanish linseed oil of $10.55 per 100 kilograms.

RAMON O. WILLIAMS,
Consul-General.

HABANA, *February 19, 1896.*

FRANCE.

The production of linseed oil at Marseilles, it has been found upon inquiry since the receipt of the Department instruction concerning the subject, like other vegetable oils, is of considerable proportions, but, unlike other oils, particularly peanut and copra, the annual product appears to be decreasing. The average imports of the grain or seed for the ten years ended with 1893 were in excess of 10,000,000 kilograms (22,046,000 pounds), but in 1894, the total quantity was 8,164,000 kilograms (17,998,000 pounds), while in 1895 the total decreased to about 6,000,000 kilograms (13,227,600 pounds). This decline will be seen to be of very great importance when it is stated that for the ten years from 1871 to 1880, inclusive, the average imports were 16,244,600 kilograms (35,822,845 pounds), while from 1881 to 1890 the average was 10,841,550 kilograms (23,901,286 pounds).

The seed has commanded a price, recently, varying from $4.63 to $5.07 per 100 kilograms (220.46 pounds), or, in our weights, from 2 to 2¼ cents per pound. The seed is imported from Roumelia and Anatolia, in Turkey, from Syria, and from Bombay. Much the larger part at present comes from Bombay, and the prices given above are those quoted for Bombay seed.

Naturally, the amount of oil produced has declined in like proportion to the seed, the total product for 1895 by the refineries at Marseilles being 2,500,000 kilograms (5,511,500 pounds). This total was produced by four manufacturers, viz: B. Roberty & Co., 1 Place de Lurette; Victor Régis & Co., 13 Rue Estelle; Juillard & Guiol, 39 Rue Dieudé; and Gardair Frères, 2 Rue Villeneuve.

This home product was augmented in 1894 by the importation of 77,000 kilograms (158,754 pounds), of which 74,000 kilograms (153,140 pounds) came from England and the balance from different countries. Of course, this does not take into consideration the considerable quantity which is brought annually from other parts of France, particularly the neighborhood of Paris, and which, for a reason explained below, is gradually growing. The figures of the chamber of commerce for 1895 are not yet complete, and at this time it is not possible to state the amount imported during 1895 or the countries of origin. The quantity, however, was practically the same as in 1894, and nearly all of the imported oil, as in that year, came from England. Indeed, the relatively small quantity imported is annually derived from the latter country, though the United States furnished 10,000 kilograms (22,046 pounds) in 1893.

As above stated, the home product for 1895 was 2,500,000 kilograms (5,511,500 pounds). About one-half of this quantity is what is known in the market as "superfine oil," and this is sold in the northern and central parts of France and used for table purposes. As salad oil or for cooking uses, it must be consumed at an early date after refining, as, unless mixed with other oils, it quickly becomes rancid and unpalatable. It is, perhaps, for this reason, that we consume in the United States but little, if any, linseed oil bearing a gold label and stamped as a superior quality of olive oil, the dealers, or "blenders," as they might be called, finding it more advantageous to supply American tables with the oil of peanuts.

The other half of the Marseilles product, amounting, in round figures, to 1,250,000 kilograms (2,755,750 pounds) in 1895, is sold to the wholesale dealers and druggists by the manufacturer, and is used principally for mixing paints. Of this amount, perhaps 900,000 kilograms (1,984,140 pounds) was consumed at Marseilles and on French territory drawing its supplies from this city. The remainder, about 350,000 kilograms (771,610 pounds) was exported to the following countries in approximately the quantities named: Italy, 1,000 kilograms (2,204 pounds); England, 1,000 kilograms; Algeria, 137,000 kilograms (302,030 pounds); Spain, 1,000 kilograms; Russia, 2,000 kilograms (4,409 pounds); Austria, 7,000 kilograms (15,433 pounds); Turkey, 55,000 kilograms (121,553 pounds); west coast of Africa, 8,000 kilograms (17,637 pounds); all other countries (none to the United States), 138,000 kilograms (304,235 pounds).

The oil is sold by weight, and always by the 100 kilograms (220.46 pounds). At present the superfine oil, for table purposes, commands 60 francs per 100 kilograms ($11.58 per 220.46 pounds) net. The common oil for paints is bringing from 48 to 52 francs ($9.26 to $10.04) for the same quantity. These prices are for cash payment, and it may be stated that this is the rule of business at Marseilles in all branches of industry. No discount is allowed, and the price when given is usually meant for cash. The French business man, particularly when selling abroad, is intensely hostile to any suggestion in the nature of future payment.

The so-called superfine oil is sold in barrels that have contained American cotton-seed oil, and these are bought on the market here at about 8 francs ($1.54) each. New barrels of the same, or similar, quality cost 15 francs ($2.90) each. For the common oil the manufacturer obtains empty petroleum barrels, and it is sold in these either for export or home consumption. The barrels cost about $1.15 each. It should be stated that the prices of the oil given above do not include the barrel, which is paid for by the purchaser, or, in the case of druggists or others located at Marseilles, is often furnished to the manufacturer by the buyer.

An important feature connected with the production of linseed oil, as will be readily understood by those interested in the trade in the United States, which, when there is severe competition, has much to do with the rate of profit, is the price commanded in the market by the refuse, or cake, from which the oil has been extracted. For stock food, linseed cake is far superior to that left by other oils, and, in this land of close economies, the price of oil constantly fluctuates in harmony with the demand, or lack of demand, for this refuse. The amount produced here annually from linseed is nearly 5,000,000 kilograms (11,023,000 pounds) and at the present time it commands a price of 12.75 francs ($2.46) per 100 kilograms (220.46 pounds). Unfortunately for the linseed-oil manufacturer, his millions of kilograms of cake is but a small part of the total annually produced at Marseilles, the refuse from all oleaginous seeds attaining the large total of 235,000,000 kilograms (519,081,000 pounds). And, however superior linseed cake may be to any other, the manufacturer finds it necessary to fix a price but little in advance of that demanded for the inferior sorts in order to compete effectively with the latter. It is claimed by the manufacturers that at present prices there is absolutely no profit in the oil itself, and that the income from their establishments is dependent solely upon the sale of the cake. The country adjacent to Marseilles, and, indeed, practically all the French Mediterranean territory, is devoted to the culture of the vine and olive, and the almost complete lack of horses and cattle on the farms, or other live stock to which linseed cake may be fed, places the Marseilles refiner at a very serious disadvantage. It is apparently for this reason that the annual product has been diminishing for many years, while the sale of

Paris and other interior oil has increased proportionately. Linseed cake is commanding in this market to-day 12.75 francs ($2.46) per 100 kilograms (220.46 pounds), while the interior refiner, with a much larger demand, is enabled to dispose of this product far more advantageously, and thereby sell the low-grade oil at Marseilles at a price with which the home producer finds it difficult to compete.

INTRODUCING AMERICAN PRODUCTS.

As to the final inquiry of the dispatch—"What is the best method to be followed in introducing American oil?"—it is respectfully suggested that in France other things must be taken into consideration than the fundamental principle, successful elsewhere, of furnishing a better grade of goods and at a cheaper price than the home market affords. The people prefer a home product, and in any branch of trade they are ready to pay more for it than for a better grade of the same article manufactured abroad. The dealer is aware of this inclination, and it is exceedingly difficult to introduce foreign goods and maintain a trade for any length of time in competition with a similar article of home manufacture or production. Even when one has succeeded in building up a trade, it often comes to a speedy and abrupt end by exclusion on the ground of alleged discoveries of adulterations or impurities. The representative of the largest packing establishment at Chicago recently offered, through the proper authorities, for use in the army, admittedly the best canned beef in the world at 18 cents per kilogram. The offer was declined and an order given in obedience to a recent law for French canned beef, admittedly, if not the worst in the world, at least not equal to the best, at 63 cents per kilogram. This incident is typical of the difficulties which our merchants and manufacturers must expect to encounter in introducing their goods in this market, whether the product is linseed oil or any other species of merchandise.

Leaving these considerations aside, as has been repeatedly pointed out in dispatches from this consulate, it is more than useless to write to a French merchant in English, quoting him certain grades of a particular sort of merchandise at so much per pound, or gallon, or yard, and then add some trade abbreviation, such as "f. o. b.," which he does not understand, and which he certainly will never go outside of his own country and his own language to follow up. In this country, the American manufacturer will meet at every turn, in every branch of trade, the representative of an English house, speaking French and quoting goods by the kilogram, or the metric quintal, or the liter, or the meter, as the case may be, and in francs, if desired, rather than in pounds and pence.

However, a certain quantity of foreign linseed oil is exported to this market, and a very large quantity is brought from the interior of France. The duty is 6 francs ($1.16) per 100 kilograms (220.46 pounds). By writing in French and sending samples, it is possible that successful trade relations might be developed. To that end, it is deemed appropriate to give here the names and addresses of wholesale dealers at Marseilles: Marius Dufour, 69 Rue de Rome; Albert Dufour, 75 Rue Grignan; A. Fréling, 9ª Quai du Canal; Paret-Roure, 9 Quai du Canal; Gardair Frères, 2 Rue Villeneuve; Vᵛᵉ Dubost, 98 Rue de l'Evêché; H. René, 170 Cours Lieutand; Cautrel & Boyer, 11 Quai de Rive-Neuve; Jullien Frères, 5 Rue Nationale; Jourdan, Buy & Co., 109 Rue Dragon.

CLAUDE M. THOMAS,
MARSEILLES, *March 12, 1896.* *Consul.*

GERMANY.

The present price of linseed oil in this market, without the duty of 5 marks ($1.19) per 100 kilograms (220.46 pounds) net, is about 40 marks ($9.52) per 100 kilograms.

The oil is, in nearly all cases, put up in old petroleum barrels, and is sold only by weight, i. e., per 100 kilograms (220.46 pounds), the terms of payment generally being three months' acceptances or 1 per cent discount for cash.

The only important mill in this consular district, that of Fr. Thörl, in Harburg-on-the-Elbe, is said to turn out from 1,200 to 1,600 cwts. of oil per day. There is, however, another large mill in course of construction at Harburg, which will be put into operation in about one year.

The chief countries from which the oil is imported are Great Britain and the Netherlands. According to the official statistics of Hamburg, the importations for 1892, 1893, and 1894 were as follows:

Imported from—	1892.		1893.		1894.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Pounds.		*Pounds.*		*Pounds.*	
Great Britain	23,674,420	$1,043,265	20,656,460	$991,563	18,179,480	$859,265
Netherlands	8,553,820	398,833	9,840,380	485,996	9,341,200	473,802
Bremen	74,800	4,0 5	488,400	26,604	1,790,800	97,499
Belgium	197,120	8,823	190,520	8,718	258,160	13,099
Rhine Province	....	....	133,540	8,187	86,680	6,136
Schleswig-Holstein	17,380	904	49,940	2,582	25,080	1,238
France	30,360	1,678	660	24	....	....
Remaining imports by sea.	2,640	179	3,080	145	4,840	299
Total by sea	32,550,540	1,457,707	31,362,980	1,523,819	29,686,240	1,451,338
Venlo-Hamburg Railway	1,626,680	73,908	1,817,420	88,474	1,829,520	89,064
Berlin-Hamburg Railway	126,720	5,760	193,600	9,425	85,800	4,177
Upper Elbe	327,800	14,890	30,140	1,468	....	....
Lübeck-Hamburg Railway	15,840	721	....	....	36,520	1,777
Total by railways and from Upper Elbe	2,097,040	95,279	2,041,160	99,367	1,951,840	95,018
Grand total	34,647,580	1,512,986	33,407,140	1,623,186	31,638,080	1,546,356

It must be explained, however, that no separate statistics are kept at this port of goods entering for domestic consumption and those destined, in transit through Germany, for other countries. It is impossible, therefore, to determine how much of the above quantities of imported oil were consumed in this country and how much was reexported. The following statement will show the exports of linseed oil from Hamburg during the year 1894:

To—	Quantity.	Value.
	Pounds.	
Brazil	370,480	$18,230
Chile	80,080	4,094
Asiatic Russia	30,140	2,284
Venezuela	34,320	1,904
Haiti	21,340	1,190
West Africa	17,380	1,023
Guatemala	12,760	820
Prussian Baltic ports	270,820	15,410
Schleswig-Holstein	237,380	12,852
Bremen	81,400	4,450
Denmark	22,220	1,285
Exports by sea to all other places	147,620	8,158
Total by sea	1,325,940	71,700
Upper Elbe	20,374,640	991,886
Berlin-Hamburg Railway	1,815,000	88,345
Venlo-Hamburg Railway	1,241,460	60,438
Lübeck-Hamburg Railway	1,162,700	56,601
Total by rail and to the Upper Elbe	24,593,800	1,197,270
Grand total	25,919,740	1,268,970

Here, also, it must be mentioned that it can not be ascertained what quantities of these exports represent the product of Germany and how much the product of other European countries.

Without knowing the prices at which linseed oil can be manufactured in the United States, it is very difficult to conclude as to whether it can be successfully introduced into Germany in competition with the domestic product and with other importations. Knowing, however, as already given above, the prices at which the oil is generally sold here ($9.52 per 220 pounds) and the import duty ($1.19 per 220 pounds), it should be easy for our manufacturers, by adding the costs of transportation, insurance, commissions, etc., to decide whether they would be able to gain a foothold in this market.

Conversations with dealers here, who are not manufacturers, have convinced me that there is an emphatic desire on their part to handle American linseed oil, and it is the opinion of the writer that the best method to be followed is for our dealers to act in concert in the matter and send reliable agents to Germany, prepared to furnish not only a full line of samples and selling quotations of the article, c. i. f. Hamburg, but evidences of sound financial standing and able to inspire a confidence that orders will be filled promptly, up to sample, and in accordance with all the conditions of the transaction.

It would, perhaps, be best to preliminarily enter into correspondence with some of the leading dealers here for an exchange of views as to the practicability of opening up an American trade in this oil. Without assuming any responsibility in the matter, I give herein a number of names of the leading dealers in linseed oil in this city, who will, I am sure, be happy to furnish further detailed information, viz: E. W. Glahn, Neue Gröningerstrasse No. 28 II; R. Veers, Grimm 12; Franz Gabain, bei St. Annen 5; F. Pietzcker, Grosse Bleichen 53.

It would be advisable to submit samples of the following two qualities: (1) Fat, pure, fresh, clear oil, as free as possible from all sediment (for soap factories); (2) old, meager, well-settled oil, without sediment (for varnish, colors, etc.). The second quality is generally worth about 23.8 cents per 220 pounds more than the first quality.

In a conversation which I had with one of the above-mentioned dealers, he was kind enough to advance the following ideas. After remarking that it appeared as if the United States had decided to enter more extensively into the growing of linseed, he stated that the seed costs here from $1.96 to $2.43 per 110 pounds, according to quality and purity, and that with such seed prices the English and Dutch mills were able to deliver the oil at $9.52 per 220 pounds and the cake at $1.19 per 220 pounds, but that at such figures their profits were very small. If the United States desired to compete with the European mills, they would, he thought, have to be able to grow the seed in their own country at a lower cost of production than that of East Indian, Russian, or La Plata origin. The gentleman further gave it as his opinion that the price of $9.52 could not be maintained if large quantities of linseed oil were exported from the United States to Europe, and that soon the German mills, which are protected by the tariff, will have reached such a state of development that importations of linseed oil will necessarily decrease materially. In his opinion, a well-conducted German mill ought to be able even to-day to meet any competition. He thought that in Austria the outlook would be more favorable, the industry being in its infancy there.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *March 7, 1896.*

GREAT BRITAIN.

As a regular trade, linseed oil is not imported into Great Britain. In the year 1895, 3,400 tons were imported from Holland, but this was quite exceptional, being what is called "special market operations," and in no sense regular business. Small quantities are imported from France, aggregating some 500 tons a year at the outside, the quantity depending upon the relative price of rape oil in that country. When that is high, linseed oil is used for mixing with it; when it is low, small shipments of the excess product of linseed oil are made. France seems to be the only country on the

Continent doing any regular shipping of the commodity to Great Britain, because it is the only country which seems to have a supply beyond its own wants. Until the price of rape oil fell two years ago, this linseed-oil surplus was used in France for mixing with the rape oil. Now the prices of both oils are about even and the surplus finds an outlet from France into other markets, Great Britain being one of them and Belgium another, but the demand is not great in either country.

The oil is sold in barrels of 40 gallons each and in pipes. It is always sold by the ton of 2,240 pounds.

The price varies according to the supply of seed and the market price of cake for feeding purposes. The present quotation for linseed oil is 18s. 6d. per cwt. ($4.50 per 112 pounds) in pipes and 19s. ($4.63) per cwt. in barrels.

In case of export, the terms are cash against shipping documents, less 2½ per cent discount. For home trade, the terms are cash in fourteen days from date of contract, less 2½ per cent discount.

The quantity of linseed oil manufactured in Great Britain is about 150,000 tons annually. This includes manufactures from all descriptions of linseed, of which there are several kinds and qualities, and from seeds of different countries, viz, India, Argentina, America, and Russia.

Great Britain manufactures all the oil required in her own market and quantities for exportation. The oil is exported in 5-gallon drums and in petroleum barrels.

PATRICK A. COLLINS,
Consul-General.

LONDON, *April 18, 1896.*

PEARL FISHERIES AND PEARL SUPPLY.

On December 20, 1895, the following circular was sent from the Department of State to consular officers stationed in the several districts where pearl fisheries were thought to exist:

GENTLEMEN: A leading firm engaged in the importation of precious stones in New York writes as follows to the Department under date of November 12, 1895:

"Since the beginning of this year, there has been a great scarcity of small pearls suitable for manufacturing jewelers in this country, and they complain bitterly of losing a large portion of business through the insufficient and tardy supply of pearls.

"If the Department of State could only publish some information regarding the Indian and other pearl fisheries and the ways and means by which the pearl crop is disposed of, we believe that some direct relations between this country and the original markets would be the result."

You are therefore requested to investigate and report upon the pearl fisheries in or adjacent to your several districts, giving all information which can be obtained. Your answers thereto will be published in the CONSULAR REPORTS.

On December 21, 1895, another circular, supplementary to and embracing the two quoted paragraphs of the foregoing circular, was sent to the consular officers resident in the principal cities of Europe, requesting information concerning the pearl supply in their respective districts, the extent and the manner in which and whence such supply is obtained.

The following reports have been received in reply to both circulars.

ARABIA.

Since receiving the Department circular I have made inquiry in regard to the pearl industry and output in places near this port (Aden), and have the honor to report the following facts:

For a good many years past there has been quite a pearl-fishing industry conducted at the lower end of the Red Sea. On both sides of this sea—at Massowah, on the African side, and Loheia, on the Arabian side—there are very small barren islands, and between these islands, where the water is only a few fathoms deep, these pearl banks are situated. The pearl-fishing industry is carried on by native Arabs, in rough, open boats, in a rather primitive fashion. Any Arab may dive at any point along these banks, for although the Turkish Government makes an attempt to control the fishing on the Arabian side, the natives have succeeded in evading all interference so far. The fishing season commences about the 1st of March and lasts until about the 1st of June. While it is a fact that most, if not all, of the divers are Arabs, the output is almost entirely controlled by native merchants of India. During the nine months that these pearl fisheries are idle the fishers become deeply in debt to these merchants for subsistence, and when the season commences they become still deeper in debt for boats and other supplies. The consequence is, they are obliged to sell their output to these creditors at prices to suit the latter. In view of this fact, the principal pearl market is Bombay, for there these Indian merchants reside, although, during the season, a good supply of these pearls may be found in all of the neighboring cities; and the mother-of-pearl shells, in which the pearls are found, are bought by the European merchants of this place and shipped to Germany, Austria, and the United States, where they are worked up into articles of different kinds.

The annual output from these pearls alone, from the best information I could get, has amounted to about 100,000 Maria Theresa dollars ($50,000 in United States currency) up to a few years ago, but, for some reason, a falling off has occurred in these few years which fully amounts to 50 per cent. I have made diligent inquiry as to the cause of this decrease in the output, and the natives give two reasons therefor, which may be taken for what they are worth, viz: (1) There is a belief among them that a pearl is formed from a drop of rain caught in the mouth of a pearl oyster, which, by some chemical process, after a time turns into a pearl, and, as there has been very little rain, if any, in that region for several years past, there are no pearls; (2) that within the past few years there have been a great many coasting steamers plying their trade in that part of the sea and the agitation and displacement of the water by these steamers has had something to do with the yield of pearls.

The reason why pearls are scarce in the American market is, according to the information given me by a native pearl merchant, that lately there has been a greater demand among the natives of India and Arabia for pearls than from any other quarter of the globe. The native women of these two countries wear rings in their ears and noses, besides those worn on their fingers, as well as bracelets on their arms and ankles, and it is no infrequent sight to see all these ornaments completely studded with pearls. So, in view of this demand here at home, the pearls bring as good, if not better, prices among these people than in the European and American markets.

From what I can see and hear of this industry, it seems to me that if our American houses could have a representative on the spot where these pearls are found, or in some of the neighboring places where they could get such pearls as were wanted, and not depend on getting such as they can get after passing through the hands of several middlemen, our home market could be better and more cheaply supplied with pearls of all kinds.

WM. W. MASTERSON,
Consul.

ADEN, *February 17, 1896.*

AUSTRALASIA.*

AUSTRALIA AND TORRES STRAITS.

The pearl-fishing industry off the coast of Australia is in rather a depressed condition, with no reasonable hope for revival. The industry was established, along the north coast of Western Australia, at Roebuck Bay, as early as 1876, and has been prosecuted scientifically since 1879.

The old grounds reached along the coast fully 500 miles, from Exmouth Gulf, in latitude about 22° south and longitude 116° east, to Cape Londonderry, in latitude 13° south, longitude about 127° east. The new grounds lie on both sides of Cape York Peninsula, across Torres Straits to New Guinea, and down along the Queensland coast nearly to Cooktown, or to about 16° south latitude. This covers the known pearl-fishing grounds off Australia. These grounds are leased from the Queensland Government at £1 ($4.86) per year per mile of coast line.

It is usually believed that the best pearls come from the Persian Gulf, which yield something like $1,000,000 per year, but those obtained on the Australian coast and in Torres Straits are found in the same class of shells—the *Margaritifera Meleagrina*—nacre, or mother-of-pearl, and it is claimed that they are purer in color.

The old grounds on the northwest coast are well-nigh worked out, not over fifty boats being left. About 20 fathoms (120 feet) is as deep as the work can be carried on profitably, and as the water deepens rather rapidly on the Western Australia coast, the accessible grounds were limited. From Cape Londonderry, clear around to Melville Bay, the water is too deep for fishing, even close along the coast. The less depth of water through the Torres Straits and the northeast Queensland coast has made this the more favored grounds of late years. It is believed that there are also extensive grounds in the Gulf of Carpentaria, not yet prospected, though the bottom being muddy, the work would be difficult and the pearls few.

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*Consul Connolly, of Auckland, reports that there are no pearl fisheries in New Zealand.

It may be interesting to the unitiated to learn that pearl fisheries are carried on, not for the pearls, but for the shell—the mother-of-pearl—called by the craft, I believe, nacre.

The pearl itself is of but secondary consideration, yet, though as high as 4,000 shells have been taken without finding a pearl, the special finds, or the hopes for them, enhance the interest of those most directly concerned in the industry.

The Torres Straits shells, on the average, are about the size of a breakfast plate, nearly as circular, and quite as flat, and weigh about 2 pounds each, though some of the old ones weigh as much as 28 pounds.

The best and most valuable shells are called "chicken shells." They are about 3 or 4 years old, and for Torres Straits shells they bring 8 per cent more, while for Western Australia shells they bring 12 per cent more per cwt. (112 pounds) than "first-class" shells. Old shells are usually defective, and, if very old, are often almost entirely worthless from the ravages of a marine worm—the cobbara.

In the early development of the industry, Sydney was the headquarters and it was carried on almost exclusively by Sydney capital and Sydney enterprise. Since 1882, however, Brisbane and the islands have been taking the lead. The capital is yet chiefly British, though the British no longer have exclusive possession of the grounds.

In 1892, the Japanese entered into the enterprise with some enthusiasm, and these people now hold fully one-fifth of the trade, having some forty boats, out of a total of two hundred, engaged in the industry. These people are very thorough in their operations and gradually the business seems to be shifting into their hands, as the traders and storekeepers find it profitable to furnish them with boats and other appliances. However, as the grounds are mostly under the jurisdiction of Queensland, and as in that colony there is a tendency toward legislative restrictions against colored people or Asiatics, the whites cherish a hope that they may soon reoccupy the whole field, though how the industry can be carried on without Japanese or black divers has not yet been very fully considered.

It seems that the Japanese are spurred into greater energy by the fact that all employed work on the "lay" principle, while among the whites only the divers, all of whom are Japanese or South Sea Islanders, are so employed.

Since the beginning of operations in the Torres Straits fisheries, in the seventies, all the pearls have gone to England or the Continent, while all the pearl shell, except 20 or 30 tons, has gone to the London market. The markets of America and the countries of continental Europe have been tried for the shell, but without satisfactory results, as far as I am able to learn. Recently a ton of "first-class" shell was sent to New York and results are anxiously awaited.

While it is claimed that the industry is depressed, and really declining, the following table, secured from the most reliable source available, seems to indicate a comparatively uniform price and output. The shell is usually sold in packages of 112 pounds, in British colloquial terms, "cwt." For convenience, I give the price in sterling money, £1=$4.86.

Year.	Total quantity offered.	Fine bold (first quality).	Good bold (second quality).	Medium (third quality).
	Packages.	£ s. d. £ s. d.	£ s. d. £ s. d.	£ s. d. £ s. d.
1890	5,156	8 2 6 to 9 5 0	7 7 6 to 8 10 0	6 17 6 to 8 7 6
1891	7,411	8 0 0 to 9 17 6	7 10 0 to 9 0 0	7 12 6 to 9 17 6
1892	9,323	8 0 0 to 9 17 6	6 17 6 to 8 17 6	8 0 0 to 10 15 0
1893	14,278	7 12 6 to 9 2 6	5 15 0 to 8 5 0	5 10 0 to 8 17 6
1894	13,096	7 12 6 to 9 7 6	5 5 0 to 4 7 6	5 10 0 to 6 10 0
1895	9,466	8 2 6 to 8 10 0	7 2 6 to 8 5 0	5 10 0 to 7 12 6

The following are Torres Straits statistics, compiled from customs returns:

Year.	Boats engaged.	Quantity of shell gathered.	Value.
		Tons.	
1890	90	(*)	(*)
1891	126	(*)	(*)
1892	190	(*)	(*)
1893	210	1,214	£106,564
1894	203	1,193	94,350
1895	210	(†)	....

* Unknown. † Not to hand.

From present information I incline to think the decline is largely owing to the beds being constantly overworked.

Prospecting new grounds is very expensive, and as each leaves this for others to do, all continue the work year after year in the same locality. From sixty to seventy boats are now said to be laid up, as the catch is unprofitably small, and with this smaller output, the London market has considerably risen.

The fact that lately the great bulk of the shell is "medium," or "inferior," with a decreasing proportion of "fine bold" and "good bold," shows a decline really greater than appearances indicate.

Efforts have been made by the Queensland Parliament to protect the fisheries from destruction by laws prohibiting the taking of shells (the nacre, or mother-of-pearl) less than 6 inches in diameter, but the eagerness of this irresponsible class of Japanese and blacks to secure the "possible" pearl renders the law well-nigh inoperative. The shell needs to grow three or four years, but as the possible pearl does not depend on the age or size of the shell, the small ones are usually as ruthlessly opened as though no law on the subject existed.

The pearls proper, as before indicated, are incidental to the pearl-fishing industry, and they are taken, not only from the mother-of-pearl shell, but from various kinds and sizes of mussels, bivalve and univalve. However, I believe it is claimed that all the purest and most valuable pearls are taken from these particular shells (mother-of-pearl), such as are found on the Australian coast, in Torres Straits, and in the Persian Gulf.

Some years ago there were considerable quantities of rather inferior pearls found in a small shell—worthless except for the pearl—which were taken from the shoal waters of Shark Bay, Western Australia, by "trawling." Pearl fanciers tell me that the present scarcity of pearls is owing to the failure of these Shark Bay fisheries.

The quantity and value of pearls may be roughly estimated by the output of shells, but it is rather a lottery. There are certain localities in Torres Straits that are richer in pearl than others. As it is well known that pearls originate from an irritating substance in the flesh of the so-called fish, there are very few pearls in the shells found on clayey or muddy bottoms, while on the sharp sandy or gravelly land they are more frequent.

An expert tells me of an instance where 4,000 pearl shells were taken which yielded less than £10 worth of pearls, while in the same locality over thirty pearls were found in one day, one of which was sold for £2,000 ($9,600). A Queensland company, on a small area, got £1,200 worth of pearls from 8 tons of shell.

Experiments are now being made by some enterprising Britishers to cultivate pearl shells, and, by artificially introducing the necessary irritating substance in the flesh, to produce the pearl scientifically, but the success of such an enterprise has not yet been demonstrated. Mr. James Clark, whose company produces about one-third of the total output of Torres Straits, has invested $20,000 in these experiments, and he has great faith in the success of the enterprise.

As these pearl fisheries are more than 1,500 miles from Sydney, it is impossible to make close or critical observations or to consult numerous authorities, but I have made every effort to gain information on the subject, and, I believe, with fair success.

As to pearls proper, it is impossible for me to secure any reliable statistics. The reasons are obvious. One reason is the jealousy of different companies, who desire to keep their success a secret, and a more difficult problem is to know the proportion of pearls filched by the employees and sold to storekeepers, speculators, and gamblers. The most intelligent pearl fisher I have seen estimates that from one-third to one-half of the pearls are first placed in the illegitimate market. This same authority places the total output at a possible £80,000 ($389,280) per annum,* and feels sure that the "crop" will further decline.

GEO. W. BELL,
Consul.

SYDNEY, *April 11, 1896.*

QUEENSLAND.

In consequence of there being no legislation on the subject, indiscriminate fishing for pearl shells takes place, and so great is the demand for mother-of-pearl shell for commercial purposes that it is sought for in all directions and with such zeal that the young and small shell is taken before it has time to become old and form pearls. This is the cause of the scarcity of pearls in the fisheries of this colony.

From what I can learn, I find that the market in London can absorb all the pearls obtained—indeed, twice the quantity obtainable could be easily disposed of in the London market. There is no duty on pearls in Great Britain and the catchers prefer to send pearls there free of cost, instead of having to incur duty and, in the end, only obtain probably the same price as they can in the market where there is no duty. This has been assigned to me as a reason for not shipping to New York when I have endeavored to persuade shippers to try the New York market.

If United States buyers would buy on the spot in Queensland, no doubt they could obtain a regular and full supply of pearls for their requirements.

W. J. WEATHERILL,
Consular Agent.

BRISBANE, *February 14, 1896.*

BRITISH HONDURAS.

The only pearls of any commercial value that are found in this portion of Central America are the pink or conch pearls, which, for beauty, rival the white or tinted pearls of other countries. They are, however, quite scarce at the present time, and becoming rarer every year, as their value and beauty are becoming better known. Fine specimens command in this market $30 to $50, and are bought up at once. The most valuable are slightly oval and from one-fourth to three-eighths of an inch in length, being somewhat flattened on the sides. The color is the beautiful pink so well known in conch shells and varies greatly in different specimens. The surface has a slightly transparent appearance, showing a delicate, wavy marking, apparently beneath the surface.

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*C. W. Fraser, manager of the Queensland Pearl Shell Company, Limited, under date of Sydney, N. S. W., April 17, 1896, says: "I have read the press copy of a report prepared by the United States consul at Sydney on the pearl fisheries of Australia—which should have the date of April 11—and I regard it as a very fair review of the subject considered. I have had a large and very thorough experience in the industry considered in the report, and I see no error in the statements, while the information I regard as full enough for general purposes. However, as to the total output of pearls given in the last paragraph, I would raise the estimate from £80,000 to fully £125,000, or an average of £8,000 per annum for the last ten years."

The kind most commonly found are small, say about the size and shape of a large grain of wheat. The body is usually a deep pink, almost like coral, but not so opaque, and with a white tip or point at each end. They are often fractured or cracked in extracting them from the shell.

They are produced by the ordinary conch, whose shells are often used as ornaments for parlors or to hold doors in place. In this part of the world, the shells are used as borders for walks or flower beds, and make a fine appearance.

The animal, or mollusk, is highly esteemed as an article of food in all this part of the world, and it is principally in preparing them for cooking that the pearls are found. As far as I have been able to learn, no systemized search has ever been made for conch pearls. The conch is usually found on the sand bars, or "spits," that run out from the islands, or "cays," as they are called here, and seem to come in from the deeper water after severe storms. They are not cultivated, but are often placed in inclosures, or "kraals," to keep them from wandering away again. They are usually made into soup or fritters, in the latter form somewhat resembling oysters in taste. The soup is very palatable and nutritious, and is recommended for sick people who are weak. The meat is rather tough and gristly. It is often preserved in vinegar and makes a good pickle.

The pearls are apparently formed by the introduction of some foreign substance into the shell, and the animal, being unable to eject it, proceeds to cover it with successive layers of nacreous substance, until the corners are all rounded off and covered. They are very delicate and easily fractured or destroyed by heat. In the arts, they are usually mounted with a circle of small diamonds, which add greatly to their beauty. These pearls can be produced artificially by introducing into the shell small particles of anything that would not drop out again, but I have no record of its having been done here. I once saw an article in one of the West Indian newspapers stating that some enterprising individual had been taken before a magistrate and fined for producing pearls in that way. His plan was to bore a hole and then introduce the substance to be covered.

The shells abound here, and could be exported in considerable quantities were there any demand for them.

Their principal use on the islands is to fill up low-lying lots or wharves.

The conch is sold in the market as regular as fish or meat, and sell at four for 5 cents, out of the shell. The rejected shells can be had at 10 cents per hundred, but as the ends are broken off to extract the animal, they would not have any value as an article of export.

For the export trade, the animal would have to be permitted to die by exposure to the sun and air. Many, however, die in the natural way. The value of all such shells here would be 25 to 50 cents (gold) per hundred.

In addition to the ordinary conch, there is a species called the "queen." It is different in shape and the colors are more varied. These shells command 25 to 50 cents each in this market, and are too rare to ever figure in the export list.

I have never heard of the ordinary pearls of commerce being found on this coast of Central America.

ALBERT E. MORLAN,
Consul.

BELIZE, *January 21, 1896.*

CEYLON.

The Department circular of December 20, 1895, reached this office shortly prior to the annual inspection of pearl banks off this coast; accordingly, there was then no information of practical utility on that subject for transmission from here.

Now, however, the inspection has been held, and it appears from the inclosed newspaper paragraph, appearing in the Times, of Ceylon, April 14, 1896, that there is no hope for a pearl fishery occurring in these waters for another four years, probably five years, that being the period required by the Ceylon pearl mollusk to mature. In the meantime, there must occur quite a pearl famine in Ceylon, for even now there are no fine pearls to be bought, and the few—perhaps 2,000 carats of defective pearls—in the market are held by the dealers at amazingly high prices.

W. MOREY,
Consul.

COLOMBO, *April 21, 1896.*

[From the Times, of Ceylon, April 14, 1896.]

THE PEARL BANKS OF CEYLON.

Captain Donnan, the inspector of pearl banks, returned to Colombo this afternoon in the bark *Sultan Iskander*, after an absence of exactly seven weeks. His first find was on the Arippu banks, where, on the Cheval Paar, on the northwest part of the paar, in about 9 fathoms of water, he discovered a small bed of oysters about 3 to 6 months old. The configuration of the oyster bed was irregular; but shortly after, on the Periyar Paar, 3 miles west, where there was a fishery in 1879, Captain Donnan, in about the same depth of water, discovered a very promising bed 1½ miles in diameter. Here the oysters were very thick, but still as young as on the adjoining bank. On coming down off Dutch Bay, the inspector found another lot of oysters on the Muttuvaratu Paar. This is the famous bank which supplied the three fisheries of 1889, 1890, and 1891. The oysters scattered over an area of 1½ miles in diameter, with several detached patches, and, where the oysters are thinnest, there is the most risk that they will disappear by migrating elsewhere. The depth on this bank varied from 5½ to 9 fathoms. Then, off Chilaw, on the Jokenpiddi Paar, for half a mile in diameter, there was another promising bed, from 3 to 12 months old, in a depth of from 8 to 9 fathoms of water. The inspection of the paars off Negombo showed, as usual, no oysters. Captain Donnan, in making his inspection, was accompanied by the tug *Active*, twenty-two boatmen for the four inspection boats, fourteen divers, and twelve munducks, or divers' assistants. His system is to moor sixteen buoys, with his bark in the center. These buoys range north, south, east, and west, in lines of four, each buoy in the line being one-fourth of a mile distant from the next one. Between each buoy in turn the four boats row in a circle, proceeding abreast, with the divers making periodical dives and reporting to the coxswains, who record each dive and its result—such as whether oysters were found and the nature of the ground, whether sandy, rocky, or muddy. The work begins at 7 o'clock in the morning, with this series of circles, until the outer buoys are reached, where the circumference is 4½ miles. The whole survey lasts until 1 p. m., which is a day's work. The various reports are then handed in to Captain Donnan, who makes up his diagrams and traces out the "lay" of the oyster bed where a find has been effected. The bark then moves to a sufficient distance, and the buoys are again placed in position by the tug; and in this way each bank is thoroughly inspected.

When young oysters only are found, Captain Donnan does not make a calculation of their number. He describes them as "uncertain beggars," and, until he has seen them on a paar some two or three years consecutively, or until they are 3 years old, he does not consider that he is able to reckon upon a fishery with any degree of certainty. He then makes a calculation of the number, according to the quantities that the divers are able to bring up and the closeness at which they lie.

He has returned on this occasion with samples and diagrams, and also with a number of specimens for the museum of bits of rock upon which young oysters are sticking, and he hopes that Mr. Haly will be able to devise some plan whereby the oysters can be kept from falling away from the pieces of rock. Captain Donnan had no gum with him, and was unable to fix them, so that they are not as good as when he first obtained them.

On the present occasion, there was good weather on the whole, and no sharks were sighted. The inspector found the weather very hot, however, though off Negombo since Saturday night the wind blew steadily from the west, and his bark pitched bows under. There was one day off Chilaw when he expected the "little monsoon," but the weather changed again, and it was not until off Negombo that he came to the conclusion that the little monsoon had arrived, owing to the very steady way in which it blew from the southwest for three days running. No land wind had blown since Saturday night.

He had, Captain Donnan said, enjoyed good health, and had worked every day, Sundays included, as there was nothing more absurd than doing nothing on a Sunday on the pearl banks.

CHILE.

I have the honor to acknowledge the receipt of the Department circular dated the 21st of December last. In reply, I have to say that there are no regular pearl fisheries in Chile. Very small pearls of little value are found in small quantities at or near Smythe's Channel, Straits of Magellan.

Pearls are imported here principally from Paris, Berlin, and Rome.

I am informed by an old-established jeweler in this city that the supply of pearls received here from Europe is diminishing from year to year.

The commercial statistics of Chile do not show any importation of pearls.

JAMES M. DOBBS,
Consul.

VALPARAISO, *March 11, 1896.*

COLOMBIA.

So far as this section of the world is concerned, the reason why there has been a great scarcity of pearls suitable for manufacturing purposes in New York is due solely to the fact that the New York manufacturers will not pay as much as their French or English colleagues or competitors. I see agents of French and English houses paying regular visits here to secure pearls. I have yet to see an agent from the United States on the same errand.

As a rule, the pearls are very fine here, and the traffic, which is not very extensive, after all foots up at least $150,000 yearly. It should be $500,000 or more under a proper system of dredging and diving.

The value of the pearl is established by its weight, purity, brilliancy, and shape, the pear-shaped being considered the ne plus ultra. To illustrate, a pear-shaped pearl of untarnished purity and brilliancy weighing 5 carats would be valued at, say, £1 sterling for the first carat, £2 for the second, £3 for the third, £4 for the fourth, and £5 for the fifth, or £15 ($73). These figures as to carats and pounds are only approximative. I have seen a perfect pearl sold for $3,500 (gold). A "perfect pearl" means a regular pear-shaped pearl. This one was about 1 inch in length.

Very few houses deal in pearls here. The names of these are Arosamena Bros., Brandon Bros., Joshua Piza, jr., and F. C. Herbruger. I know of no others.

A look at the map of the bay of Panama will show, some 40 miles from this city, the Pearl Islands, on the east side of the bay. On the west side of the bay pearls are found all the way to Chiriqui and Veraguas. The latter beds may be dredged, and they are poorly dredged; but no dredging is allowed at the Pearl Islands, where pearls now are only secured by divers. The government of Panama, I understand, would give a concession for $20,000* (Colombian currency) to any responsible party to dredge at the Pearl Islands, as also the exclusive privilege of diving, and the lease to be for a number of years. Pearl dredging has to be done in a scientific way, or else the pearl oysters emigrate, and it is hard to find the beds again. These pearls are of two colors—white and lead color; the white is highly appreciated in France and the lead-colored pearl is in greater demand in England.

VICTOR VIFQUAIN,
Consul-General.

PANAMA, *January 25, 1896.*

DENMARK.

The Danish jewelers receive their supply of pearls altogether from London and Paris. Traveling salesmen visit Copenhagen from two to three times a year with samples of their wares, and in this manner the supply is kept equal to the demand. While pearls have of late made considerable advance in price, the jewelers here find no difficulty in obtaining all they need in their business from the foregoing sources. London merchants have the best part of the trade. If at any time a jeweler here should have occasion to desire an immediate increase to his stock on hand, a letter to a Paris or London house would at once be followed by a salesman with the quantity and quality of the pearls needed.

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* On April 1, 1896, the Colombian peso dollar was worth 49.3 cents in American currency.

There is no pearl fishing in this district. Formerly, as I am informed, a small quantity was found on the Swedish and Norwegian coasts, but this has almost entirely ceased, and the few pearls that are found there at the present day are disposed of by the finders (oystermen) to private parties rather than to dealers. Private parties pay generally better prices for these "accidental" pearls than the jewelers. I am also informed that a good crop of the so-called Scotch pearls are found on the coasts of Scotland, but all of these go, of course, to London.

ROBERT J. KIRK,
Consul.

COPENHAGEN, *March 13, 1896.*

ECUADOR.

There is no pearl fishery now in Ecuador, nor anywhere on the coast of South America, so far as I know.

Historians give accounts of the finding of the pearl oyster in divers places, but I know of no fisheries that have come to anything. The coast of Peru, near Tumbez, has been mentioned, and it is known that pearls are found at the Galapagos Islands. Of the latter, which are the only places where they are found in the waters of Ecuador, I believe, Wolf, in his Geografia y Geologia del Ecuador, published in 1892, says:

> The pearl fishery has not, up to now, given satisfactory results, either because the pearl shells, of which I have seen some very beautiful specimens, are exceedingly rare or because they have not yet fallen upon the proper method of fishing them.

This is all he says about so interesting a subject. The truth is, no proper effort has ever been made to find out the extent and value of the pearl fishery of the Galapagos Islands. No one resides upon the whole extent of the islands, covering more than 2,000 square leagues of the ocean, save on one of them there is a sugar hacienda, and the efforts at pearl fishing have been made by transient whalers.

GEO. G. DILLARD,
Consul-General.

GUAYAQUIL, *January 28, 1896.*

FRANCE.

The scarcity of pearls, of which complaint is made in the United States, also exists in Europe. The progressive falling off in the supply has been for a considerable period a source of anxiety to those interested in the trade.

As this decline in the available quantity of fine pearls has been coincident with an increasing demand, the natural result has been very a material advancement in values. While pearls have long maintained a popularity in Europe, surpassing that of any other gem, it is only within a comparatively brief period that they have been so highly esteemed in the United States. The leading authorities on gems and precious stones agree that there is a very great change in the popular taste in the United States in this respect, and that pearls bid fair to at least attain the same priority there which they have so long possessed in Europe.

As is well known, the two great pearl markets of the world are London and Paris. The sources of supply are several and widely separated. A large proportion of the finest round pearls continue to come from the Sooloo Archipelago, although the supply from this source is steadily diminishing. The London and Paris trade is carried on chiefly with Bombay and Madras, the great primary centers of the commerce in pearls, which obtain their supplies principally from the fisheries of southern India and Ceylon. Other pearl fisheries, more or less extensive, exist on the northwest coast of Australia, in the Torres Straits, in the Persian Gulf along the shores of Arabia, in the Gulf of California, and in various waters of Central and South America, especially the Gulf of Darien. The supply from most of these fisheries, however, is intermittent and comparatively insignificant.

A few black pearls of great value are obtained in the Gulf of California, and some of the pearls from Panama and Australia are of very superior quality. Practically, all the small pearls come from India and a large proportion of the medium and large ones. The pearls from Australia and Panama are all of medium and large size. Generally speaking, the India pearls command the highest prices, because of their superior form (many of them being perfectly round) and their brilliant luster. Most of the Australian pearls, although of a whiter tint, have less luster and are more irregular in shape, being rather oval than round.

Probably 90 per cent of the commerce in pearls is conducted by London and Paris firms. The gems are consigned to these houses by dealers in Bombay, Madras, and other Indian cities for sale for account of the latter. They are then offered to the trade by the consignees; bids are made and the pearls are sealed by the bidder, pending cable communication between the Indian principals and the French and English consignees. The prices at first demanded in behalf of the Indian houses are usually far in excess of those which are subsequently accepted by them. But this depends largely upon the number and size of the bids tendered. When a lively demand develops for a special shipment of pearls, the prices obtained frequently approximate very closely to those originally named. When a bid is made to the consignee, reported by the latter to his principal and definitely refused, a higher bid must be made or the seal is removed and the pearls then placed on the open market. After a bidder has placed his seal upon a lot of pearls they can not be offered for sale, or even exhibited, to any one, until definite action is taken on the bid. The entire traffic in pearls is carried on under this system, and they can not be obtained by manufacturers or dealers in appreciable quantities except from the consignment houses of London and Paris.

It is estimated that of the pearls consigned to these houses from India two-thirds are shipped directly to London and one-third to Paris. There are in this city three very important firms receiving consignments direct from India. An equal amount of business is believed to be done in this city by the branches of London firms and by representatives of such firms who come here from time to time to sell pearls to the trade. The best judgment is that the purchases by dealers and manufacturers in Paris are at least equal, and probably superior, to those in London.

The advance in values of different grades of pearls during the last twelve months ranges from 10 to 60 per cent. Certain sizes of small pearls (of which there are between thirty and forty) have advanced on the Paris market from 50 to 60 per cent. These pearls are largely shipped to Providence, R. I., and other centers of jewelry manufacture in the United States. They are sold by the Paris consignees to special dealers here, who assort and classify them in lots according to size, shape, luster, etc. They are then repurchased by the sellers, and are offered in lots to the trade. The largest increase in value appears to be in these pearls ("half pearls") which are destined to be divided for manufacturing purposes. Small, round pearls (whole) have also increased in value from 25 to 30 per cent. Drilled, or strung, pearls, which are only exported in small quantities to the United States, show an advance of 15 to 25 per cent.

The scarcity of pearls is attributed to the closeness with which the chief fisheries have been exploited. As is well known, the divers can only operate at a certain depth, and when supplies tend to exhaustion in a given fishery, time must be allowed for their renewal before large takes can be again made.

At this time, stocks are very low in Paris, but the latest advices from the principal fisheries are said to be more encouraging, and it is believed that a larger supply will be available within the next two or three years. Even conservative authorities, however, do not anticipate any material decline in prices. It is believed that the demand for fine pearls will continue to grow on both sides of the Atlantic, at least for an indefinite period.

SAMUEL E. MORSS,
PARIS, *February 28, 1896.* *Consul-General.*

INDIA.

The pearl fisheries of India have been famous from the remotest times, the ancients obtaining their pearls almost entirely from India and the Persian Gulf. In the latter locality, the industry has existed from the time of the Macedonians. Oyster beds are said to extend along the entire Arabian coast of the gulf, but the most important are on the sand banks off the island of Bahrein. These were visited in 1596 by Linschoten, who writes:

> The principall and the best are found in all the Orientall countries, and the right orientall pearles are some between Ormus and Bassora in the straights, or Sinus Persicus, in the places called, Bareyn, Catiffa, Julfar, Camaron, and other places in the said Sinus Persicus, from whence they are brought into Ormus. The King of Portingale hath also his factor in Bareyn that stayeth there only for the fishing of pearles. There is great trafficke used with them as well in Ormus as in Goa.

Tavernier visited the pearl fisheries nearly a century later, when they had been regained by the Persians, who had a fortress on the island of Bahrein, with a garrison of 300 men. Tavernier says that, while—

> The Portugese held Hermuz and Muscat, each terrate or boat which used to fish was obliged to take out a license from them which cost 15 abassis (£1 2s. 6d.), and many brigantines were maintained there to sink those who were unwilling to take out licenses. But since the Arabs have retaken Muscat and the Portugese are no longer supreme in the gulf, every man who fishes pays to the King of Persia only 5 abassis, whether his fishing is successful or not. The merchant also pays the King something small for every hundred oysters.

The pearls, Tavernier states, were nearly all sold in India, but some were taken to Bassorah and some to Russia. In connection with these fisheries, he mentions a very fine pearl, then in the possession of the Emir of Vodana. Though small—only weighing $12\frac{1}{16}$ carats—it was perfect in shape, and "so clear and transparent that you can almost see through it." The value of this gem is said to have been £32,000 ($155,712).

The best beds in the gulf are said to consist of coral, with beds of white sand lying in clear water. According to Colonel Pelly's report, there were, in 1863, 1,500 boats in Bahrein alone, and the annual profits from the whole fishery amounted to about £400,000 ($1,946,400). In 1879, the value of the pearls taken in the Persian Gulf was estimated at about £300,000 ($1,459,800). In the same year, 7,000,000 were obtained, and it was believed that, but for frequent interruption by weather, 2,000,000 more might have been added thereto. From these figures, it would appear that Colonel Pelly's statement of an annual value of £400,000 must be very nearly correct.

The chief center of the pearl trade in the Persian Gulf is Lingali (Lingah). Most of the products of this fishery are known as "Bombay pearls," from the fact that many of the best are sold there. The pearls have frequently a distinctly yellow water. These are chiefly sent to Bombay, since they have now, as in Tavernier's time, a ready sale in India. The whitest and purest gems go to Bagdad.

The pearl fisheries in the Gulf of Manaar are, however, the most important in India. On the Ceylon side, the oyster banks lie from 6 to 8 miles off the western shore, a little to the south of the island of Manaar, while those on the Madras side are situated off Tinnevelly and Madura. Fishing for pearls has been conducted in the gulf from time immemorial. Thus, in the earliest writings of Europeans on the East, we find frequent reference made to the fisheries. The headquarters of the fishing appears to have been the

Koru of Ptolemy, the Kolkhi of Aryan, the Coli or Chayl of the travelers of the middle ages, the Ramana Koil (temple of Rama) of the natives. This place is the sandy promontory Ramnad which sends off the reef of rocks, known as Adam's Bridge, toward Ceylon.

According to Friar Jordanus, 8,000 boats were engaged in the Manaar Gulf in 1330. Linschoten writes in the sixteenth century:

> There are also other fishings for pearle, as betweene the Island of Seylon, and the Cape de Comriin, where great numbers are yearlie found, for that the King of Portingale hath a Captaine there with certaine soldiers, that looketh unto it; they have yearlie at the lest above three or four thousand duckers, yet live only by fishing pearles, and so maintaine themselves.

He then fully describes the method of fishing, which appears to have been very similar to that of the present time, and adds some interesting remarks concerning the Portuguese method of working the fisheries:

> When they have made an end of the day's fishing, all the fishers, with the Captaine, soldiers, labourers, and watchmen for the King, goe together, and, taking all the pearles that are caught that day, they divide them into certaine heaps, that is, one part for the King, another part for the Captaine and soldiers, the third part for the Jesuits, because they have their cloister there and brought the countrie first into the Christian faith, and the last part for the fishers, which is done with great Justice and Equalitie. This fishing is done in the summer tyme, and there passeth not any yeare but that divers fishers are drowned by the Cape de Comriin (which is called the King's Fishing), and manie devoured by fishes, so that when fishing is done there is great and pitifull noyse and cry of women and children heard upon the land for the loss of their husbands and friends. Yet the next yeare they must do the same work againe, for that they have no other meanes to live, as also for that they are partlie compelled thereunto by the Portingales, but most part are content to doe it because of the gaine they get thereby after all the danger is past.

The observant traveler then goes on to state that the pearls were sold according to their size, being passed through sieves, each sifting having its constant value. He also remarks that the pearls were rubbed with rice and beaten with a little salt, to give them "a faire colour," and that they became "as faire and cleane as christall, and so continue."

Tavernier also notices these fisheries a hundred years later, remarking—

> The pearls found there are the most beautiful, both as regards water and roundness, of all the fisheries, but one is rarely found which exceeds 3 or 4 carats in weight.

In the seventeenth century, with the growth of Dutch commercial power in the south of India, the fisheries fell into the hands of Holland, and were conducted for many years by that power. In 1794, the Madras Government undertook the management of the pearl fisheries on the southeast coast of the peninsula, and, in 1796, the Ceylon pearl fisheries also came under the management of the British Government. During the first eighty-three years, the former realized about 1,200,000 rupees, their annual expenditure being about 6,000 rupees. The Ceylon fisheries have proved much more valuable. In the first forty years—from 1796 to 1837—the total receipts amounted, according to one computation, to £964,803 ($4,694,731) and the expenditures to £51,752 ($250,950); according to another, the total net revenue for that period was only £524,521 ($2,552,319). During the past fifty years—from 1838 to 1888—the total revenue has amounted to £437,110 ($2,126,977) and the expenditures to £105,656 ($513,522), or a net annual average profit, inclusive of many years when there was no fishing, of upwards of £6,600 ($32,116). The average number of oysters annually obtained during the same period amounted to about 3,575,600. In the year 1880, according to the Colonial Exhibition Handbook of Ceylon, 25,000,000 sold for only £20,000 ($97,320), whereas, in 1881, 18,000,000 sold for £59,000 ($288,094).

The revenue derived from pearl fisheries is necessarily of a very precarious nature, since the mollusks possess locomotive powers and frequently disappear from certain banks and migrate to more favorable situations. New beds are thus formed from time to time, which can only be found at the expense of considerable time and money. The Dutch, probably owing to this reason, had no fishery from 1732 to 1746, and again from 1768 to 1796, while from 1820 to 1828 and from 1838 to 1854, there was similarly no fishery on the Madras coast. Mr. Thomas states that again, between 1860–61 and 1884, fishing operations were suspended in Madras.

The Ceylon and Madras fisheries are each under the charge of a Government officer, who spends a certain part of each year on inspection duty, and keeps an accurate record of the condition, at different times, of the various banks. These officers regulate the fisheries and permit fishing only when they consider the banks to be in a satisfactory condition.

Off the coast of Ceylon the fishing season is inaugurated by numerous ceremonies, and the fleet of boats then puts to sea. Fishing, when allowed, generally commences in the second week in March and lasts from four to six weeks, according to the season. The boats are grouped in fleets of from sixty to seventy, and usually start at midnight, so as to reach the oyster banks at sunrise. Each boat generally carries two divers, and is manned by ten rowers, a steersman, and a shark charmer ("pillal karras"). On reaching the bank, a signal gun is fired and diving commences. To facilitate the descent of the diver, a stone of granite weighing about 40 pounds is attached to the cord by which he is let down. The men work in pairs, one going down, the other staying on board and watching the signal cord. When this is pulled, the latter draws up the sink stone first, then the basket of oysters, and last of all the diver himself. Divers remain below, on an average, for from fifty to eighty seconds, though some can endure a much longer submergence. Exceptional cases, indeed, are recorded of men who could remain as long as six minutes under the water. Each man makes forty to fifty descents a day, and when exhausted is relieved by the watcher.

Notwithstanding the fact that the water is infested with sharks, accidents scarcely ever occur. The divers, however, always arm themselves with a short, pointed piece of ironwood for defense, and place implicit faith in the shark charmers. The constant life of exposure, excitement, and exhaustion in a tropical climate is necessarily a very trying one; consequently, the diver is a very short-lived man. Work is continued from about sunrise to noon, at which time a gun is fired and operations cease. On the arrival of the fleet at the shore, the oysters are thrown on the beach to putrefy, or are carried to the Government "kottus" at once, where they are divided into four heaps. The divers then receive their share (one heap), and the remaining three are sold for the Government to the highest bidder. The oysters generally fetch an average of 30 to 40 rupees per thousand. After removal from the dead oysters, the pearls are classed by being passed through a number of small brass colanders known as "baskets," the holes in the successive baskets being smaller and smaller. Having been sized in this way, they are sorted as to color, weighed, and valued.

The little mollusk, known locally as "suran" (modiola) is probably the greatest enemy of the oyster. It clusters in dense masses over large areas of the sea bottom, spreading over the surface of coral blocks, smothering and crowding out the recently deposited and delicate young of the oyster. From experiments made with divers equipped with diving helmets, gathering stones instead of oysters, by Mr. Thorowgood, when superintendent of the Madras harbor works, it was calculated that a pair of helmeted divers could together send up 12,000 shells an hour in shallow water, or, allowing for delay in hauling up in 12 fathoms of water, say 9,000 shells an hour, and as, allowing for shifts, each diver should work four hours a day, the quantity sent up by a pair of divers in a day would be, respectively, 48,000 or 36,000 shells a day, which is equivalent to the work of twenty-four or eighteen naked divers sending up 2,000 shells a day each. The results of the work done by two helmeted divers employed as an experiment at the Tuticorin fishery for some inexplicable reason fell far short of this estimate, and compared very unfavorably with the work done by the skilled native divers without helmets.

A great drawback and danger to a pearl fishery is the constant risk of cholera. Mr. Thurston describes such an invasion of cholera which he witnessed in 1889 at the Ceylon fishery, which collapsed entirely in consequence, the camp being burned down and the fleet of two hundred boats, with their panic-stricken crews, disappearing within the space of only a few hours.

The prospects of a pearl fishery when success seems certain may be abruptly ruined by accidents from sharks, of which the divers have a superstitious, but not altogether unreasonable, dread. Tennent, Ceylon, Vol. II, says:

> The only precaution to which the Ceylon diver devotedly resorts is the mystic ceremony of the shark charmer, whose power is believed to be hereditary; nor is it supposed that the value of his incantations is at all dependent upon the religious faith professed by the operator, for the present head of the family happens to be a Roman Catholic. At the time of our visit, this mysterious functionary was ill and unable to attend; but he sent an accredited substitute, who assured me that although he was himself ignorant of the grand and mystic secret, the fact of his presence, as the representative of the higher authority, would be recognized and respected by the sharks.

At the Tuticorin fishery in 1890 a scare was produced by a diver being bitten by a shark, but the scare subsided as soon as "a wise woman" was employed by the divers.

The sorting of the pearls is described by Mr. G. Vane, C. M. G., in his article on the "Pearl fisheries of Ceylon," as follows:

> Sorting and sizing the pearls into ten different sizes, from the largest to the smallest, is done by passing them through ten brass sieves of 20, 30, 50, 80, 100, 200, 400, 600, 800, and 1,000 holes. * * * Each of the ten sizes may include some of every class of pearls, the 20 to 80 and 100 may each have the "ani," "anatari," and "kallipu" kinds, and this necessitates the operation of classing, which requires great judgment on the part of the valuers.

Perfection in pearls consists in shape and luster, viz, sphericity and a silvery brightness, free from any discoloration, and, according as the pearls possess these essentials, the valuers assign their appropriate class, namely: "Ani," perfect in sphericity and luster; "anatari," followers, or companions, failing somewhat in sphericity or luster; "masanku," imperfect, failing in both points, especially in brilliancy of color; "kallipu," failing still more in both points; "kural," a double pearl, sometimes "ani;" "pisal," misshapen, clustered, more than two to each other; "madanku," folded or bent pearls; "vadivu," beauty of several sizes and classes; "tul," small pearls of 800 to 1,000 size.

The pearls having been thus sized and classed, each class is weighed and recorded in "kalanchu" ("kalungy") and "manchadi" ("manjaday"). The "kalanchu" is a brass weight, equal, it is said, to 67 grains troy; the "manchadi" is a small red berry. Each berry when full sized, is of nearly or exactly the same weight. They are reckoned at twenty to the "kalanchu." The weights being ascertained, the valuation is then fixed to each pearl class, or set of pearls, according to the respective sizes and classes—the inferior qualities solely according to weight in "kalanchu" and "manchadi;" the superior "ani," "anatari," and "vadivu" are not valued only by weight, but at so much per "chevu" of their weight, the "chevu" being the native or pearl-valuer's method of assigning the proper value by weight to a valuable article of small weight, form and color being also considered.

The pearl-shell fisheries of the Merguian archipelago, in the government of Burma, comprise 11,000 square miles. The gathering of pearl shells is the chief industry, though, of course, pearls are also found. The banks are rented from the government and rights to fish sublet on a royalty. The fishing is nearly all done by helmeted divers.

VAN LEER POLK,
Consul-General.

CALCUTTA, *June 5, 1896.*

Bombay.—Vice-Consul Comfort, under date of February 18, reports that the pearls dealt in in Bombay come chiefly from the Persian Gulf, and, to a small extent, from Ceylon. The Persian Gulf fisheries are entirely in the hands of natives, chiefly Mooltanis, who have their own firms in the gulf for buying and forwarding the pearls.

ITALY.

Pearl oysters inhabit both eastern and western seas, always in warm latitudes; inferior bivalves are found in other seas and in many rivers in various parts of the world. The most celebrated pearl banks lie near the coasts of Ceylon, the Gulf of Persia, near Japan, in the waters of Java and Sumatra, near the Isthmus of Panama, and at the mouths of the Rio de la Hacha, in South America.

In the waters off the coast of Sardinia, there is found a pearl-bearing oyster, from which have been taken pink, red, white, and black pearls. These pearls have the appearance of cornelian stone and are generally very uneven in color; they are not prized and are unknown in the general trade.

Certain rivers in Scotland furnish white pearls, which, although somewhat used, are not prized on account of their dullness of color.

The "ear shells" and bivalves which lie in rivers are taken by hand, but on account of marine monsters the fishing of pearl oysters is difficult and dangerous, as they adhere to the deep submarine rocks.

In the East, pearl fishing is carried out in the most primitive manner. Pearl divers, before going out, receive extreme unction from their priests, and on reaching the pearl bank they murmur a prayer, throw themselves into the sea, rake up the oysters as long as they can remain under water, and then rise to the surface to deposit their take in the boats in waiting. After a little rest they return to their dangerous occupation. At Panama, the divers are obliged to go down deep after the oyster. The Swede loosens the oysters from the rocks with long, solid iron tongs and hauls them up.

The pearls which are brought by the fishers are called "virgin pearls." Merchants classify and divide them according to form, color, and quality. They place the round ones together, they pair those in form of a pear, they remove the irregular ones, which are called "barocche," or out of the round, and gather the smallest ones in a mass. The round ones are pierced and strung with a silken thread, often with much art, in order to obtain a better effect. The quality of color and of size greatly influence the price. A perfect pearl should be without irregularities of surface, whatever its form. It should be of a silvery white color, slightly blue or yellowish.

There is no basis for establishing the prices which jewelers ask for pearls, but the following is given by an important Italian jeweler dealing extensively in pearls as their mercantile value at the place of origin:

A pearl weighing 1 grain is worth half its weight (the Italian lira, 19.3 cents, being taken as the unit), say 50 centimes (this may vary up to 75 centimes); a pearl weighing 2 grains, one and a half times its weight, say 3 lire; 3 grains, 6 lire; 4 grains, 8 lire; 5 grains, 10 lire; 6 grains (twice and a half its weight), 15 lire; 7 grains, 18 lire. The value increases greatly according to size, and above these weights fancy prices are asked for fine specimens.

The great market of supply for Italy, as well as for most European countries, is London. This market is supplied principally from the take of the India company, which has its headquarters at Bombay and its representatives at the place of fishery.

The company sells through its London representative directly to large houses in that city dealing solely in pearls, whose agents visit Italy, bringing supplies for the Italian market. For everything that is small and commercial the purchase by Italian merchants here is then and there, but pearls and necklaces of great price are frequently left with them for sale on commission. Italian merchants also make some purchases of pearl supplies at Paris.

Budapest, Austria-Hungary, is also a considerable market for pearls. These pearls are all derived from merchants in the interior of Persia, are fine in shape and color, but are not noted for their size and value. They may be said to vary from 1 to 6 grains in weight. The great sales of the Budapest market are made at Vienna. There is not much trade with Italy from this source, for, as has been said, the pearl supply of Italy is derived from London and, in part, from Parisian merchants who have purchased originally on the London market.

During the last ten years fine pearls—pearls of great price—have been much sought for on foreign markets; therefore, family pearls, which have come to sale in Italy have usually found their market in Paris or London. The only historical necklace in Rome was presented by Cardinal Mazzarino in the seventeenth century to one of his nieces, who married here. It is now the property of a Roman princess.

Pearls are much sought and prized by all classes in Italy, and a very important trade is carried on here. From time immemorial the peasant women of Tuscany have been accustomed to wear necklaces composed of several strings of small pearls of irregular shape, pierced and strung on silk. These pearls are known as "intermezzette." Their necklace most frequently constitutes their sole property, and have often cost from 1,000 to 1,500 lire; yet these are women who at seasons are engaged in agricultural pursuits in the open fields. Owing to this custom, there is a large demand for this class of pearls throughout Tuscany, and there always is a considerable supply to be found at Florence.

It is most difficult, if not impossible, to give the extent of the pearl supply of Italy. Imports of this article are placed in the same category with diamonds, sapphires, and other precious stones. It is said that statistics of the supply could only be had from the India company or its representatives in London.

At the present time, the best pearls come from the fisheries of the India company, which is explained by the fact that the company, authorized by the Government, only allows the fishing of a pearl bank during one season in every ten years, because it was found that excessive fishing on a fruitful bank only furnished pearls small or irregular in shape, and that it was therefore necessary to leave sufficient time for their further development.

WALLACE S. JONES,
Consul-General.

ROME, *February 29, 1896.*

MADAGASCAR.

There is no pearl supply in this district. Most of the native jewelry is made of silver and gold. Gems are found in Madagascar of commercial value, but are preserved as curiosities rather than valuables. There does not seem to have been, even in remotest times, any pearl fisheries either on the coasts of Madagascar, the Comoro Islands, or the island of Réunion. The very few pearls that are in the island came here in European jewelry or were brought in for the purpose of repairing same.

EDW. TELFAIR WETTER,
Consul.

TAMATAVE, *February 25, 1896.*

MEXICO.

In obedience to Department circular dated December 21, 1895, I inclose herewith the most reliable and authentic information obtainable regarding the pearl supply in Mexico and the manner in which and whence said supply is obtained. It may be that a supplemental report will follow, as I have requested the consul at La Paz to give such information as he could; this, however, can not change the features of this report, as Mr. M. S. Cornejo and his associates have entire control of said pearl output from Mexican waters.

I have the honor to inclose a translated copy of a letter received from Mr. Cornejo concerning a concession for carrying on the pearl-shell fisheries from the coast of Lower California entire to the Guatemala boundary. I also send herewith six small pearls of various colors as samples of what can be obtained.

THOS. T. CRITTENDEN,
Consul-General.

MEXICO, *February 14, 1896.*

MR. CORNEJO TO CONSUL-GENERAL CRITTENDEN.

MEXICO, *February 11, 1896.*

Hon. T. T. CRITTENDEN,
Consul-General of the United States, Mexico.

SIR: I have the honor to inform you about the contents of the circular of the State Department, Washington, bearing date of December 21, 1895, regarding the supply of small pearls in Mexico. * * * I represent, or hold, a concession from the Government of

Mexico for carrying on the fishery of pearl shells from the coast of Lower California and the whole Mexican Pacific coast to the Guatemala boundary. This enterprise is in the hands of three Mexican associates. The work is carried on continuously throughout the whole of the year. More than five hundred men are employed in the diving operations. A special fleet is employed in such a fishery. More than 400 tons of shells are obtained each year. These are sold in the United States and Europe. The good-class shells are sent to New York, London, and Paris, which latter place offers the best and most constant market. Defective and small shells are sent to various cities in Germany, where they have a magnificent consumption in the jewelry industry. You may therefore, Mr. Consul, inform the State Department of your Government that this company can and will execute all orders for small or large pearl shells, with the assurance that they will receive on our part the most prompt attention at the most moderate and reasonable prices, so as to enable us to establish a market for our industry in the United States.

I take pleasure in forwarding through you, with this letter, as samples, six small shells, or pearls, of various colors, advising you at the same time that in the lots that may be ordered shells of similar colors and forms can be supplied, with the usual proportion of defective ones included.

I remain, Mr. Consul, yours respectfully, M. S. CORNEJO.

LA PAZ.—SUPPLEMENTAL REPORT.

The pearl fisheries in this district (La Paz, Lower California) are decreasing yearly for want of a systematic method of gathering the pearl oyster. The fact that the fishing is continued throughout the year, without a sufficient intermission during the season for spawning, destroys the small oyster to such an extent that the decrease is now very noticeable, and if proper steps are not taken to regulate the fishing seasons, this industry will soon become entirely extinct, as has already taken place in the vicinity of Panama from the same cause.

The regular season for diving is considered best from April or May to October or November, during which period the temperature of the water is the warmest. The production of fine pearls has been estimated at from $100,000 to $150,000 per year heretofore, but the last season, especially, it is not considered to have produced over $75,000. All, or the largest part, of the shell and pearls are exported to Europe, and the best season for purchasing the products by the pearl dealers is in October or toward the last of the fishing season.

Small experiments are now being made to cultivate the pearl oyster, and the success attained in the last two years certainly proves the feasibility of the industry. Unfortunately, however, all of the coast comprising the fishing grounds on the peninsula of Lower California is now monopolized by concessionists, who have obtained these leases from the Government for a long period, and as the holders, so it is asserted, do nothing to develop the industry, it is to be regretted that people who might be willing to do so are thus debarred.

JAMES VIOSCA, Jr.,
Vice-Consul.

La Paz, *January 28, 1896.*

NETHERLANDS INDIA.

During the year 1895 a fleet of pearl fishermen, composed of a schooner of about 100 tons, used as a receiving ship, six luggers of about 15 tons each, manned with a crew of some fifteen men, including divers with apparatus, and a steam launch for towing, were fishing off the west coast of Sumatra, but after a three months' trial, with little or no success, the fleet returned to Singapore.

The principal and no doubt the richest fishing grounds for pearl shell is among the Moluccas group of islands, but up to the present time no Europeans have attempted fishing there, as the Netherlands Indian Government have small gunboats patrolling among these islands to prevent vessels from encroaching on these grounds. For a number of years the natives have been fishing for pearls among the Moluccas, but, having no diving apparatus, they seldom go deeper than 2 fathoms and consequently do not obtain the finest specimens of shells or pearls.

Mr. Henry Rollinson, of the New York Life Insurance Company, obtained concessions and permission to work the pearl-fishing grounds at the island of Serim, of the Moluccas group, and attempted last year to float a company for that purpose with a capital of $20,000, but was unable to obtain the necessary capital.

From Macassar, the center of the pearl-fishing business, I have obtained the following points: At Macassar there is a regular supply of pearls at all times and they are taken there by Chinese and Arabs, who purchase them from the natives of the neighboring islands, principally the island of Aroe. From Macassar the pearls are sent first to Singapore and then to the London, Paris, and Amsterdam markets.

It is impossible to give the exact value of the pearls exported yearly from Macassar, but it is estimated at about $12,000. Some years, when there is a large supply of mother-of-pearl shells and large size and "orient" pearls, this amount will be increased.

Most of the pearls which are brought to Macassar are "baroques." The highest valued, such as button, egg, or pear-shaped, are rather scarce, especially those of a fair size.

During 1895 one pearl of 24 carats came to the market, but while this pearl was nearly round, it was not perfect. It was sold for about $1,000. Another pearl of 21 carats, pear-shaped, but not perfect, sold for $800.

Large pearls, as above, are very scarce, consequently they bring high prices, although not perfect. Fine, large pearls, without flaws, are hardly ever seen in the market, and their value would be estimated, at least, double that which was obtained for the pearls already mentioned.

The kind generally received at Macassar are pearls of from 2 to 10 carats and sell as follows: Eight to 10 carats, $50 to $500; 6 to 8 carats, $40 to $300; 3 to 5 carats, $10 to $150; 1 to 2 carats, $1 to $15—depending on form, "orient," and perfection of the pearl. Those weighing less than 1 carat are sold at from 25 cents to $3.

Large arrivals of pearls from Australia appear to keep the prices for the common kind low in the European market, but large pearls without flaws, or slight ones, are much sought after, and high prices are offered at Macassar.

The United States would, no doubt, get a fair share of this business if American firms would follow the example of the European merchants and authorize some good firm, thoroughly acquainted with the business, and stationed at Macassar, to buy this article for their account.

B. S. RAIRDEN,
Consul.

BATAVIA, *March 30, 1896.*

MR. ROLLINSON TO CONSUL RAIRDEN.

NEW YORK LIFE INSURANCE COMPANY,
SOUTHERN DIVISION, ASIATIC DEPARTMENT,
Batavia, Java, February 18, 1896.

B. S. RAIRDEN, Esq.,
United States Consul.

DEAR SIR: Referring to the inquiry made by the Department of State regarding pearl fisheries in the Indian seas, I take much pleasure in giving you some particulars referring to territories under the Dutch Government, *i. e.*, the surrounding seas of Sumatra, Java, Borneo, and the Moluccas. First, I must state that only natives without diving apparatus, consequently not diving deeper than 2 fathoms of water, have up to now attended to this industry, disposing of their spoil, such as pearls, mother-of-pearl, tripang, and other sea products, to traveling Chinese and Arab merchants or those living in the vicinity of Macassar, perhaps dealing direct with one or two established European firms there.

During last year attempts were made by Australian pearl fishers coming from the Thursday Island to encroach on Dutch territories, and it is only since then that the Dutch Government has been paying more attention to this industry, the more so as it has been proved by experts, who have explored more or less these territorial waters, that immense quantities of these much-desired sea products are to be found.

The pearls are of the finest quality, pure white and of regular shape; the mother-of-pearl shells are of immense size, on the average 225 to a ton. Some enterprising people have asked for and obtained from the Dutch Government concessions to start pearl fisheries, but unfortunately, Dutch capital is principally invested in coffee, tobacco, and other products, so it might be a splendid investment for American enterprise.

Yours very truly, H. ROLLINSON.

NEW CALEDONIA.

There is no pearl fishery or pearl industry in New Caledonia. An attempt has lately been made to work a pearl-shell bed, discovered on the west coast of the island. This ground, which extends to 30 miles of reef, has lately been taken up by two French citizens, Messrs. Vidal and Thomas. Should American jewelers desire to enter into communication with these gentlemen, I shall be most happy to place my services at their disposal.

L. LE MESCAM,
Vice-Commercial Agent.

NOUMÉA, *April 10, 1896.*

NICARAGUA.

Fishermen say that shells containing pearls have been found on the western coast of Nicaragua, but that pearls have never been found in the vicinity of San Juan del Norte.

There are oyster beds near Bluefields, and the consular agent has been instructed to make inquiries regarding pearls and pearl shells. But little information can be obtained here regarding the pearl fisheries of Colombia or the alleged finding of pearls on the Pacific coast of Nicaragua.

THOMAS O'HARA,
SAN JUAN DEL NORTE, *January 27, 1896.* *Consul.*

Bluefields.—Consular Agent Seat reports: Pearls are found occasionally at Pearl Lagoon. I have not heard of any being found here. No one is engaged in pearl fishery on the coast. The oyster beds of Pearl Lagoon and Bluefields are extensive. Oysters are sold at Bluefields by Indians, but no one makes a business of gathering them for sale.

PHILIPPINE ISLANDS.

There are no pearl fisheries near Manila, although an occasional pearl is found in the oysters gathered by the natives for the Manila market. The great pearl fisheries are situated far to the south, in the neighborhood of Ceylon. I might say a few pearls are found in the Sooloo Sea and around the islands of the southern part of this group (the Philippines). The market for pearls is either Colombo, Penang, or Singapore; only a few find their way to Manila, and then only for sale by the jewelry stores, mounted and set for the trade. I give the names of two good firms, who might enter into negotiations with a responsible house in the United States—Uhlman Bros. and Levy Hermanos, Manila and Paris, France.

I saw a pearl to-day that was found in a common oyster. I should say it weighed 5 carats and was perfect in shape and of good color, but such a find is rare in the vicinity of Manila.

ISAAC M. ELLIOTT,
MANILA, *February 21, 1896.* *Consul.*

PORTUGAL.

Lisbon is not, in any degree, a mart for the sale of small pearls. There are no large manufacturing jewelers here, and Paris and London are the sources of the limited supply of all sorts of gems required by the retail jewelers.

Some years ago a concession was granted by the Portuguese Government for a company of pearl divers to operate off the coast of Mozambique, but no steps appear to have been taken since to carry out the project.

J. B. WILBOR,
Vice-Consul.

LISBON, *January 21, 1896.*

RUSSIA.

Pearls are found in Finland lakes in small quantity and of such inferior quality that no systematic fishing is carried on. Pearls found in these lakes are of small size, lacking the bright, white, glossy appearance. They are of dull, whitish appearance, with bluish tint, and are about the same as the Scotch pearls; in fact, they are mainly sold as Scotch pearls. The Russian jewelers purchase their pearls from houses in London and Paris, who send their agents to this country. A few years ago pearls came direct from Persia to Russia, but since the pearl trust has been formed in London, the market is entirely controlled from those quarters.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *January 25, 1896.*

SIAM.

Pearl fisheries are not developed to any considerable extent in Siamese waters. Pearls are found, from time to time, but not in sufficient quantities to create any trade in that line. If any are found, they are immediately purchased by the local demand. The high-class natives of Siam, Burmah, and India are great buyers of all kinds of precious stones and ornaments. This tendency has even increased during the last few years, on account of the prevailing belief among natives that the only safe way to invest money is to purchase jewelry and similar articles of intrinsic or sterling value. This is very much in evidence in Siam, and not much less so in Burmah and India. This may account to some extent, if not to a considerable degree, for the scarcity of pearls. I was recently informed by a reliable agent of a leading European firm that it was astonishing what vast sums of money had been and were being invested by Asiatic princes in diamonds, rubies, sapphires, emeralds, and pearls, and that some day undoubtedly the markets of the world would be flooded with these hoarded supplies. He also informed me that he knew of one Indian rajah who purchased all pearls that were brought to him, and that the native fishermen would deliver to him rather than to any foreigner. The majority of these pearls were either hoarded or distributed among the women of his court, whose desire for jewelry is never satisfied, while a fair portion was used as presents to his fellow princes in India and other countries.

A European or American can not fully appreciate the vast amount of valuable stones and like ornaments used by the royal and princely families of these oriental nations, unless he beholds them arrayed in all their glory on state occasions. Then it seems almost a wonder that any are left for the American and European markets.

JOHN BARRETT,
Consul-General.

BANGKOK, *February 17, 1896.*

SINGAPORE.

I have the honor to report that, in reply to my requests for information relative to pearls and pearl fisheries, I have received, on the part of the Government here, a communication from the honorable Colonial Secretary, of which I submit a copy, and, on the part of the mercantile community, a letter from Messrs. McAlister & Co., one from Mr. D. Brandt, of Messrs. D. Brandt & Co., and one from Messrs. Grünberg Bros., copies of which I also attach.

E. SPENCER PRATT,
Consul-General.

SINGAPORE, *March 4, 1896.*

THE COLONIAL SECRETARY TO CONSUL-GENERAL PRATT.

COLONIAL SECRETARY'S OFFICE,
Singapore, February 24, 1896.

E. SPENCER PRATT, Esq.,
Consul-General of the United States, Singapore.

SIR: In reply to your letter of the 10th instant, I am directed to inform you that there is no regular fishery for pearls in the territorial waters of this colony or in the neighborhood thereof.

The pearls in the market here are believed to be obtained from the fisheries off Australia and Thursday Island, from off the Mergui archipelago, the Gulf of Manaar, and Tamblagam Bay, in Indian waters, and from the Persian Gulf.

An American agent in the Persian Gulf or at Thursday Island would most likely be able to obtain all the pearls that may be required if he were prepared to pay the market price for them.

I am informed that in Singapore, Messrs. McAlister & Co. and Grünberg Bros. have pearls for sale.

I have the honor to be, sir, your obedient servant,

J. A. SWETTENHAM,
Colonial Secretary.

MESSRS. M'ALISTER & CO. TO CONSUL-GENERAL PRATT.

SINGAPORE, *March 5, 1896.*

E. SPENCER PRATT, Esq.,
United States Consul-General, Singapore.

DEAR SIR: We are in receipt of your favor of the 28th ultimo, regarding small pearls for manufacturing jewelers.

As interested largely in pearling and acting as agents for a large number of the pearl fisheries and having $100,000 to $150,000 of pearls going through our hands annually, we have to inform you that the greater part of these are forwarded to London for sale, while of those sold here, the small or seed pearls, such as are used by manufacturing jewelers, are never picked out or sold separately. As a rule, we never split up a consignment by selling any one lot thereir separately.

If American dealers would give us an idea of the exact class of pearls inquired for, with probable requirements, we have no doubt we could procure a considerable quantity in this market.

We receive pearls here from Lower Burmah, Western Australia, Sooloo, and, in small quantities, from Queensland.

We are, dear sir, yours, faithfully, McALISTER & CO.

MR. BRANDT TO CONSUL-GENERAL PRATT.

SINGAPORE, *February 25, 1896.*

DEAR MR. PRATT: In reply to your note of the 21st instant, there is very little import and trade here in small pearls, which I take to be pearls of from one-fourth of 1 grain to 4 grains weight. These small pearls arrive here from the fisheries in Mergui, Sooloo, and Western Australia in very small quantities, and are chiefly exported to China, the better ones for jewelry and the inferior ones for medicinal purposes. In fact, small pearls are often imported here for sale from Madras, Colombo, and Bombay, which are the places which could supply you the desired information.

The trade hence to Europe is mostly in the larger sizes, "baroques" and regular shapes.

Yours, faithfully,

D. BRANDT.

MESSRS. GRÜNBERG BROS. TO CONSUL-GENERAL PRATT.

SINGAPORE, *March 2, 1896.*

E. SPENCER PRATT, Esq.,
Consul-General of the United States.

DEAR SIR: We have much pleasure in giving you what information we can with regard to the pearl fisheries in our neighborhood.

So far as our experience goes, there has been very little done to improve upon the present system of pearl fishing in the Moluccas. The trade is entirely in the hands of a few Chinese, and the bulk of the pearls imported from there for sale here, which in themselves do not amount to much, are of the cheaper and inferior kinds; and, in our humble opinion, your Government would gain no advantage in looking upon Singapore as a direct market. From time to time some pearls come up from Western Australia in rather large quantities, but from this quarter also the quality imported is not what is termed "pearls" in the trade, but "baroques."

As to the Mergui pearling grounds, there was a company established locally, but, if we are right, we think it has been wound up, and there are at present some private fisheries there, but we understand all the pearls found are sent to the European markets direct.

We are, dear sir, yours, truly,

GRÜNBERG BROS.

SPAIN.

The demand for pearls in Spain is not very great, and I am informed by several leading jewelers that the entire supply at present in the market is not worth more than $1,000,000. They are imported from London, Paris, Antwerp, and a few directly from India, and they are to be found in Madrid, Barcelona, and Seville. As a rule, they are small and not of the best or most expensive kinds. The wealthier class of Spaniards buy their pearls in Paris or London, and there are some fine collections owned by several old Castilian and Catalan families.

HERBERT W. BOWEN,
Consul-General.

BARCELONA, *January 22, 1896.*

SWEDEN.

No pearls are found in Sweden, and the import of mounted pearls in 1894 amounted to only $800. None of the jewelers of Stockholm keep pearls in stock.

THOS. B. O'NEIL,
Consul.

STOCKHOLM, *February 5, 1896.*

SWITZERLAND.

Primarily, I may state that Geneva, although not one of the most important wholesale markets for pearls in Europe, is none the less a great jewelers' workshop, and pearls are largely used here in the manufacture of jewelry of many varieties, but none of the several manufacturers import pearls directly from the fisheries. As a matter of fact, the pearl market is unique. There appears to be no particular headquarters for it. Pearls are sold here by agents representing large houses in London, Paris, Berlin, Bremen, Frankfort, and Florence. There is one large establishment that buys pearls occasionally from Russia, but since there is no considerable pearl market in any of the large cities of the Russian Empire, it is thought that the pearls which come from Russia are taken out of old jewelry that has been bought there secondhand and broken up. In fact, the manufacturers here buy pearls whenever and wherever they can do so advantageously. They get them occasionally from traveling agents representing jewelry houses in Vienna, Turin, Frankfort, and Amsterdam, who, in presenting other goods for sale, frequently have a few pearls to offer. It is probable, however, that the bulk of the pearls used here come directly or indirectly from London, Paris, and Bremen, to which centers they are imported directly from the fisheries. The London and Paris importers get their pearls principally from Ceylon and the Persian Gulf, where they keep agents constantly on hand. There are some Bremen houses that have fisheries on the Gulf of Mexico, and import very fine black and gray pearls from there. The London houses also have agents at the Australian fisheries.

In making the inquiries directed by your communication, the persons to whom I addressed myself were the directing heads of the important jewelry manufacturing establishments in Geneva, and these gentlemen were unanimous in the statement that there has been, during the past several years, a steadily increasing demand for pearls, and particularly for small pearls ranging from one-half of 1 grain to 4 grains in weight. In the presence of this increased demand, there has been no increase in the supply, and naturally the price has also steadily increased. A notable increase in the average price of pearls began ten years ago, since which time it has increased 30 per cent. But the great increase in the prices of small pearls of good quality has occurred within the past eighteen months, during which time it has increased from 12 to 15 per cent. This, the jewelers declare here, is due to the great demand for small pearls in the manufacture of long necklaces, disrespectfully called "dog chains," for ladies, in the fabrication of each of which from 150 to 300 pearls of from half a grain to 1 grain are used. The demand for these necklaces is particularly large in Italy, where life is regarded as a sort of empty dream or starless blank to the ladies who do not possess them. The larger American demand for small pearls in the growing manufacture of jewelry has also had considerable influence in increasing the price. Manufacturers of jewelry here, however, have not suffered from an "insufficient and tardy market," as is complained of in the United States. They have easily been able to obtain all the pearls they needed, but have been compelled to pay increased prices, of which they do not complain, but which they say is natural, in view of the increased demand. They point to the fact, however, that the pearl market has never been glutted, and unless many new and productive fisheries are discovered, they contend that it never will be. They regard the increased demand for pearls as an evidence of the growing good taste of the world, and they believe this will not be diminished, no matter how popular fancy may fluctuate in the matter of diamonds and other precious stones.

That, however, which most concerns American jewelers is to know how they may establish more direct relations with the original markets. In reply to this, I have to report that the dealers here do not appear to have direct relations with the original markets at all; that is to say, they do not often buy directly either from the fisheries or from the importers, but more frequently from the dealers in London, Paris, Florence, Frankfort, and Bremen, and, as before stated, from traveling agents, who come selling other goods, but who frequently have pearls to offer. I asked the manager of the large establishment of Messrs. Golay, Leresche & Co. how he would undertake to fill an emergency order for 5,000 grains of small pearls of good quality, ranging in weight from 4 grains down. His reply was that he would fill it by placing immediate telegraphic orders with dealers in London, Paris, Florence, and Frankfort. He also said if the order were for a considerably larger quantity than 5,000 grains he would not now undertake to fill it at all, nor would he in any event seek to buy directly from the importers, a statement which was concurred in by other manufacturers of jewelry and dealers in precious stones and pearls. This would seem to indicate that the jewelers here do not consider it important to be in more direct relations with the so-called original markets than they are placed by buying directly from the various large dealers. They also say that as long as all the important pearl fisheries are controlled, as they are now and have always been, by a comparatively small number of European importers, they do not see how the manufacturing jewelers of America or of Europe can establish any closer relations with the original markets than at present exist. Some of them believe that there is a syndicate or trust among those who control the fisheries, but the majority do not think so.

In the course of my inquiries, I found that American buyers of pearls occasionally appear here and make purchases which they carry away in their pockets, and which, since they are not invoiced for shipment at this consulate, I might remark incidentally, are possibly smuggled into the United States.

It may interest American jewelers to know something of the prices of pearls in the Geneva market, and I therefore add some information on that point. Four-grain pearls of the best quality most in demand for the manufacture of fine jewelry are worth 20 francs ($3.86) a grain. These are generally the most brilliant of the Persian Gulf pearls. A quality a little whiter, but not so brilliant, brings from 15 to 18 francs ($2.89½ to $3.47½) a grain, while the commonest grades of 4-grain pearls are worth from 4 to 6 francs (77.2 cents to $1.15,8) a grain. The best qualities of 2-grain pearls bring from 10 to 12 francs ($1.93 to $2.31,6) a grain; 1-grain pearls, from 7 to 8 francs ($1.35,1 to $1.54,4) a grain; and half-grain pearls, from 2 to 3 francs (38.6 to 57.9 cents) a grain. Fine large pearls are becoming more and more rare and are worth from 400 to 500 francs ($77.20 to $96.80) a grain; the black and gray Mexican pearls are worth from 50 to 125 francs ($9.65 to $24.12,5) a grain, unless very large and rare, when they bring enormous prices.

As an instance of the largely increased price and the rarity of fine pearls, a jeweler here told me of a necklace, composed of about eighty pearls, which he sold about three years ago for 30,000 francs ($5,790). Recently, the owner of this necklace desired to add three pearls a little larger than the largest of those which already composed it, and it was found that the three pearls would cost alone 30,000 francs, or as much as the entire necklace had cost three years previously.

Jewelers here regard the pearls of the Persian Gulf as the finest.

BENJ. H. RIDGELY,
Consul.

GENEVA, *January 18, 1896.*

TURKEY.

BAGDAD AND THE PERSIAN GULF.

The fisheries of the Persian Gulf yield a great quantity of small pearls. As the gulf, with the principal point of pearl fisheries (Bahrein), is in our neighborhood, there is in Bagdad always a pretty large market for this article.

My firm, established here over twenty-five years, will execute orders at the behest of American jewelers, provided they give the necessary details as to quality, size, etc., of the pearls which they desire.

I beg to forward herewith to the Department a small collection of pearls from Bahrein. If these kinds are in demand in the United States, I will try to persuade our exporters to make shipments thither.

RUD. HÜRNER,
BAGDAD, *February 23, 1896.* *Vice-Consul.*

BAGDAD.—SUPPLEMENTARY.

I have the honor to transmit herewith, to the Department, a collection of pearls 000, 00, 0, and Nos. 1–6, which one of my friends, a great exporter of these articles, has kindly confided to me for remittance to you for American jewelers, in order to try and enter into business relations with them.

The duplicate of this collection is kept here, so that it will be only necessary, in ordering, to refer to the number desired.

As to price, I can not fix it yet, as it depends upon the quantity required, but American jewelers are invited to note me the price they will pay.

If the demands are of any importance, I would stand ready to instruct a man at the Persian Gulf to make purchases direct.

RUD. HÜRNER,
BAGDAD, *February 23, 1896.* *Vice-Consul.*

CONSTANTINOPLE.

I find that the pearls used in Constantinople are received, principally, from London and Paris. I also learn that there are no pearl fisheries in the Ottoman Empire. The nearest are in the Persian Gulf, and the pearls taken there are shipped chiefly to Bombay, being sold by the divers to agents of firms in that city.

LUTHER SHORT,
CONSTANTINOPLE, *March 6, 1896.* *Consul-General.*

THE UNITED KINGDOM.

LONDON.

London is, beyond question, the chief market and distributing point in the world for pearls.

About 85 per cent of all the pearls handled in London come from Bombay, which is the great eastern mart for the commodity. The principal sources of supply to Bombay are the fisheries of the Persian Gulf, but some pearls reach that market from the Eastern Archipelago and Australia. When the Ceylon fisheries are open, a considerable portion of the product also reaches Bombay. Pearls also come to London direct from Australia and the Eastern Archipelago, and occasionally from the Pacific coast of Central America.

It is estimated that an average year's importation of pearls from Bombay to London would amount to some £600,000 ($2,919,600), cost price; from Australia direct, £50,000 to £60,000 ($243,300 to $291,960); and from all other sources of direct supply, about £40,000 ($194,640). In this estimate no account is taken of the pearls consigned to London from Calcutta and Madras, as those consist for the most part of pearls that have been in use, nor of pearls which are daily passing through the post-office to and from London and continental towns, as these are sent backward and forward according to market demands. The estimate is therefore confined to the movement to London of the pearls of the year's fishery.

The supply from Bombay in the year 1895 is considered to have been about 40 per cent below the average in quantity, but, owing to the rise in price, the aggregate value is estimated to have been fully 75 per cent of the value of an average year's arrival stock.

The reduced stock in Bombay (and the consequent diminution in the exports from that place) is attributed to the falling off in the productiveness of the Persian Gulf fisheries. The diminished supply naturally results in higher prices.

There is no information available here as to the prospects of the fisheries during the coming year.

PATRICK A. COLLINS,
Consul-General.

LONDON, *February 28, 1896.*

DUBLIN.

I am indebted to Mr. Edmond Johnson, a leading jeweler of Dublin, for the statements following:

The great market for oriental pearls is London.

In Hatton Gardens, London, are numerous dealers in small pearls, from whom supplies can be gotten without difficulty, and without much limit as to quantity. There is no monopoly, and any dealer can buy of these houses at first hand. They are supplied chiefly from India, Ceylon, and the Persian Gulf.

There are fisheries in Ireland, in the Armagh River, County Tyrone, and in the Slaney River, County Wexford, the pearls being found in mussels in small quantities. They are inferior in luster.

NEWTON B. ASHBY,
Consul.

DUBLIN, *January 23, 1896.*

GLASGOW.

There are no importers of small pearls within this consular district. The leading jewelers here inform me that they obtain their supply of such pearls from London.

The source of supply of these London dealers is supposed to be principally from the fisheries about Ceylon and other points in the East Indian Ocean.

ALLEN B. MORSE,
Consul.

GLASGOW, *February 6, 1896.*

LIVERPOOL.

Liverpool, I find, does not encourage the pearl market, the sale being very limited. The supply for manufacturing purposes is obtained entirely from London and Paris.

JAMES E. NEAL,
Consul.

LIVERPOOL, *March 26, 1896.*

VENEZUELA.

Pearl collecting, as an industry, does not exist in this consular district.

Before the independence of the Spanish colonies in South America, the pearl fisheries of the island of Margarita and the adjacent islets, now a part of the consular district of La Guayra, were exceedingly important and profitable. They were, however, practically exhausted before the revolt of the colonies, but after a long rest were again worked profitably between, I think, 1840 and 1850. Less than two years ago, it was said that the fisheries would be again operated by parties holding concessions from the National Government, but little or nothing has been done, and, although I have not at the moment sources of accurate information, I have no reason to believe that this industry has assumed any importance.

I shall endeavor to obtain any data of interest which may exist as to present conditions.

E. H. PLUMACHER,
Consul.

MARACAIBO, *January 24, 1896.*

SAMOA: GOVERNMENT, COMMERCE, PRODUCTS, AND PEOPLE.*

RESULTS OF THE BERLIN TREATY.

In view of the striking and unique fact that the United States is directly concerned and involved in the government of Samoa; that, in conjunction with Germany and England, she directs and controls governmental affairs in these islands, having expended a large sum of money in execution of her voluntarily assumed trust; and, further, that she is by her treaty obligations bound to undertake any action, to expend any sum requisite to insure the existence and independence of the government of these islands and discharge her obligations to the treaty powers, the condition and progress of Samoa can not fail to be of interest to the people of the United States. The intervention of the United States in Samoan affairs and destiny marked an unprecedented epoch in her history. It signalized a distinct, radical departure from the policy which had grown up with the Government from its foundation. It was the first, the only, occasion upon which she ever bound herself to maintain the existence of any alien power, great or small; the only time when, through the solemn compact of a treaty to which any other power was a party, or in any other form, she assumed a share in the direction and control of the internal administration and foreign policy of an alien country.

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* The publication of Consul-General Mulligan's report has been delayed by the inadequacy of the appropriation for printing consular and other commercial reports to the heavy demands upon it during the fiscal year ended June 30, 1896.

The relations and obligations of the United States to Germany and England with regard to Samoa and her relations to Samoa herself are such as she never before in any form assumed toward or concerning any country; they are such as she to-day sustains to no other country on earth, great or small.

These considerations must, in American eyes, lend to Samoa and to whatever lesson may be deduced from the still progressing effects of the Berlin treaty during five years upon Samoan affairs and interests and upon the future of the foreign policy of the great Republic of the west an importance vastly in excess of the real merits or value of the material interests involved. Samoa, in its present situation, presents an object lesson to the American people—one that should lead to an extension of the policy of participation in the government concerns of foreign countries and a closer union with great powers to secure that influence, if the experience here afforded has been beneficial, or must exert great influence to conduce to its abandonment, if it is found to be impolitic; one that, above all, commends itself to the serious study of those who in the future are to have the immediate direction of Government affairs in the United States.

Many reports upon Samoa, physical, political, economic, and social, have been written. While very far from assuming to arrogate to myself the province of an authority, I may be permitted to say that I have never had the fortune to examine one that recommended itself as satisfactory—that was not misleading. All appeared to deal with the country in generalities, lacking in a presentation of the details upon which broad conclusions were reached; failing to furnish them as proof. Again, one, while an attractive picture of landscape and social conditions, ignored the political and economic—looking at affairs and things, as it were, as they appear, framed in all the beauty under which this more than beautiful land hides its gorged and cañoned surface and stagnant sterility. Those dealing with public and political conditions seem to disregard the social and material influences which lie behind and ever give impetus and direction to political development. In short, all gave the impression of incompleteness; most of them were suggestive of insufficient study, of dependence on hearsay, of ignorance of fact.

It may be said that, where authorities and inviolable customs rest upon such vague foundations, where every movement of a public nature, as far back as knowledge extends, is still the subject of acrimonious dispute when broached, where the political past has been such a shifting scene of turmoil and warfare, through all of which the forms and limitations of the semibarbarous governments seem to float, ever changing in form and color like the clouds of a summer sunset—at one time an aristocratic democracy, closely followed by the monarchical; and, finally, where the country, production, climate, and the characteristics of the people are all such a grouping of contradictions, such an inharmonious massing of the incongruous, perhaps no satisfactory picture is possible. Among those of intelligence who have for years found their homes on this active, if small, theater, of which the advertisement has been so greatly out of proportion to the scale of the performance, the past has settled nothing—every matter is open to dispute. There is no agreement on any existent fact of to-day. It is a chaos of beliefs, facts, remedies.

Nothing in the character of a report has been presented for some years, and during these years, no little progress has been made in the domain of practical experiment in everyday affairs of production and development, aside from the sphere of political action. Nearly, if not quite, all of the accounts, descriptions, and reports referred to accepted experiment as accomplished fact, building in prospect visions of wealth and development a near future was to realize, which the few intervening years have rudely dissolved, relegating them to the sphere of hopes disappointed, along with those dreams of exhaustless wealth and mystic fountains of eternal youth that lured Spanish adventurers to destruction in the relentless solitudes of the measureless wilderness.

To compare the promises of some of these reports with the realization that a few years have supplied, is suggestively remindful of the Arcadian glimpses caught through the medium of an irrigation or town-site prospectus. The writers were too often unconsciously influenced by a particular theory to be advanced or purpose to be accomplished. This lent motive to the greater number. All were seduced by the charm which the siren-like beauty of this land of palm and reef and bloom and verdure never fails to exert, until broken by contact with the difficulties, the unfavorable aspects, that, in the effort to realize the expectations inspired, are met with at every step like the bowlders and fused scoria so charmingly hidden by the flowers and foliage that perennially drape and crown them.

In what I shall have to present, I may not hope to escape criticism, if perchance any shall deem me worthy of that attention. Denials will, no doubt, come thick and fast. Interests and ambitions will most likely, with vision sharpened by purpose, be able to discern an indirect effort to invade domains already preempted, or intention to arrest favorite theories replete with anticipated advantages and blessings. The points for denial will be numerous, the fields for controversy will be not a few. Aside from the one universally admitted fact of the existing unsatisfactory condition, as resulting from the as generally recognized failure of the Berlin treaty to provide remedies, there is in this distracted, much overgoverned, and yet ungoverned, country no agreement of public opinion on any point. This is a land of disagreement and clash of views. There are as many opinions on controverted questions as there are individuals to entertain them. No single fact, so far as I am aware, has ever been accepted as established by experience or experiment. Whatever the result arrived at has been, an objection is ready to the method through which apparent or real result was reached. There is no unity, no such pervading sentiment, as is elsewhere understood under the term of public opinion. That years and great sums of money have been expended, for instance, in a particular experiment to insure profitable production, ending at last in loss and abandonment, produces no impression on anyone, save perhaps the unlucky experimenter. The faith that the article, the subject of the experiment, is well adapted to the soil and climate remains unshaken. A reason for failure is always forthcoming. Under these conditions, recognizing this often-admitted peculiarity, which is invested with something of the admirable courage of despair, vehement denials are to be confidently anticipated.

With these, I shall not at present concern myself. I shall endeavor to present to others the outlines of the general situation here as it impresses itself upon my observation. If I err in so doing, it shall be unconsciously done, and I shall bear with me the consolation of having endeavored in good faith to discharge a serious duty.

I have been led into this digression, and shall at times deal with minute and apparently trivial details, in the hope that this report may be the means of saving many individuals from serious disappointment, perhaps irrecoverable loss. Every mail brings to this office a large number of letters from persons in the United States, generally of small means, who, persuaded by roseate and misleading reports of the character to which I have adverted, express themselves as anxious to leave the United States, with all its opportunities and advantages, to make their homes in these islands, where they fatuitously suppose a living can be had without exertion and large profits await the application of ordinary industry or enterprise. By far the greater number of these letters must remain unanswered in the absence of provision to that end. The mere matter of postage alone, if all were answered, would impose a no light burden on private resources. If anything contained in this report shall serve the purpose of satisfying the inquiries for information from this class of my countrymen, if it may serve to arrest a contemplated mistake involving a single family, it will be a sufficient recompense for all the stings of criticism it may invite.

It is not unlikely that I, too, shall be warped by bias and led astray by motive, but if such be the case, it shall be as unconsciously done on my part as I admit it to have been on that of those to whose accounts I have ventured to refer. I admit in all candor that I came to this land of eternal summer and booming surf with an impression, derived from general information and the scant account of events transpiring here as they appeared in the newspapers, that the situation was not what it should be, and that the treaty had fallen short of the expectations of relief entertained. Yet I shared in the frequent belief that time would wear away points of friction, experience would suggest ameliorations, and, finally, that three great governments, among the most enlightened and progressive powers of modern times, providing so much of all that is best in government for millions of their own citizens, could assuredly, in united effort, provide a realization of the most enthusiastic conception of the statesman for the government of a handful of people, singularly amiable, if having great faults, apparently possessing in an unusual degree the instinct of self-government and recognition of its necessity, if often carried to absurd and parodoxical extent, the highest type of the Polynesian race, Christian, vigorous, independent, inhabiting a country abundant for their simple wants, secured by hundreds of miles of ocean against intrusion and disease.

This belief has yielded to the uncompromising logic of experience. A year's residence, a constant study of the question in all its bearings, united to a necessarily intimate participation in the governmental affairs of these islands, has crystallized into an absolute conviction that the Berlin treaty is an utter, an unrelieved, failure.

The real merits of the situation, hazed in conflicting reports, biased by divergent interests, viewed from widely separated standpoints, is not to be clearly understood at a distance. This is a microcosm of paradoxes to which experience elsewhere offers no explanation, furnishes no solution.

A recognized and reigning King is dependent for his support on the voluntary contributions—the charity, in fact—of that portion of his family or tribe who adhere to him, while foreign officers of his Government enjoy salaries from his revenues far in excess of the value of services performed. When a pittance of his nominal salary, long in arrears, is doled out to him, it comes through the hands of a foreign official, who exercises his pleasure to pay or withhold; his lawful wife is in no sense Queen, nor more entitled to consideration than the half-clad women who file back and forth along the beaches. A straggling village, within and part of the Kingdom, levies import and export duties on every dollar's worth of merchandise brought into or shipped out of the Kingdom, lending out of its revenues to the Kingdom barely enough to pay the most meager expenses and the salaries of foreign officials. Upon one officer is imposed the duties of treasurer of the municipality, treasurer of the Kingdom, adviser to the King, presiding officer and member of the municipal council, mayor of the town, and acting chief justice of the supreme court in the absence of the regular incumbent. A chief and six policemen perform the necessary police duty for this village of perhaps 1,500 or 2,000 inhabitants, native and foreign, while three men constitute the police and military force of the Kingdom, being employed chiefly as prison guards. There is no such thing as an officer of the law or representative of the Government on any other island than this (Upolu), with the possible exception of the native chiefs, if they can be so regarded, although this is not territorially the largest, while the most populous. Under the treaty, or the construction given to it, a supreme court of Samoa, adjudicating on questions affecting land titles and large interests, gravely convicts a culprit charged with stealing 25 cents worth of cocoanuts and has sent to it for trial a defendant charged with the stealing of six eggs.

All the machinery of government—perhaps it is not too much to say of several governments—is in active operation within the precincts of this little town. The guns of great men-of-war, year in and year out, frown ominously upon the shore in support of the government and the law which does not exist within their effective range; and yet an offender within half a dozen miles of the seat of so many authorities defies the processes of the court and rebuffs the power of the invalided Government. In the midst of all, white-clad messengers of Crown and consul flit to and fro along the blazing beach, the bearers of imposing envelopes, in which are covered the stately communications that round out the measures of time in this kindergarten of diplomacy.

In the meantime, no clearing is made, no plantation is extended. The country which, at best, under its many disadvantages, needs all the stimulus of peace, all the security that government can assure, visibly languishes. There is no immigration, influx of capital, or suggestion of enterprise. All wait for that undefined something—that change which is to come; wait as they have waited for thirty years; wait for the abrogation of the treaty, as they and their fathers waited for its coming.

The recognition of the Government is limited to some districts and villages of the other islands and to the larger part of Tuamasaga (the central) one of the districts of this island.

A few miles to the east, in the Atua district, a few miles to the west, in the district of Aana, the Government has no more authority, no more recognition, than does that of Turkey; and yet white men pass and repass, as do the neutral people of the natives, boats and trade find their way up and down the coast, and all the movement of the island life goes on in a country where there is, in fact, no government, other than the local authorities of the districts.

Why some adhere and others defy, why villages and districts shift and change in their adhesion, is not to be told within reasonable limits, if explained at all. To do so would be to unravel the tangles of tradition, to search far back in history, to build a theory out of the conflicting mass of district hostilities, village feuds, and family jealousies, all influenced and directed by disputed precedent, custom, and absurd regulation. Perhaps a brief explanation, as nearly true as any that could be given, would be to say that there is no reason, little at least of the character that would address itself as convincing to the civilized understanding; that these people are in many respects but children; that their sense of loyalty is of the vaguest; that by heredity, and instinct, and climatic conditions they incline to the patriarchal form of society and authority; that they are communal in all their conceptions of property ownership; that to amalgamate on even terms—on almost any terms—such a political structure as theirs, shaped and directed by such social customs, with modern civilized government is an impossibility.

The causes, or chief of some of them, as they present themselves to me, I shall not hesitate to state. If any report I can make can have the least value, it must be alone due to the fact that it covers the work of the treaty for a period of five full years, or, rather, the resultant conditions. Surely within that time its fruits should be manifest. So far, they have been but failure and disappointment.

In all this matter, I am no partisan. It is expected that I shall tell the truth as I see it, and that I shall sincerely do to the best of my ability. I have no plan, no policy to forward. It is not for me to urge the remedy, but to state the facts and the conclusions to which they clearly lead. That the remedy is greatly needed, no one will deny.

The Berlin treaty was the outcome of an effort to provide a remedy. It was but an experiment. That it was honestly and conscientiously and wisely intended no one can dispute. Yet the fact remains that it has been tried and has failed—failed absolutely. A remedy is still in demand, far more than when the Berlin conference assembled. The treaty sought to adjust differences, to provide government, to give peace; but two wars, almost five years of rebellion, waste, stagnation, and almost general, if not always aggressive, rebellion, marked by two years of active hostilities, have been added since the treaty was proclaimed.

The treaty is and necessarily was a compromise between the representatives of the republican United States and two great monarchies—a compromise between two systems where there can be no compromise. It sought to provide a form of government for yet a fourth people, making their first feeble steps in the direction of a higher civilization, for ages patriarchal in institutions, communal in property, with whose interests no two of the framers of the treaty had an intimate acquaintance, and for whose independence and real welfare, it is perhaps not overstating the case to say, not one, save the representatives of the United States, was earnestly concerned.

This was the instrument where detail was to be looked for; full of detail, where detail could but hinder, limit, and embarrass; that imposed yet a fifth complicated, illy defined, involved governmental system on a people but little in excess of 30,000 in number, in addition to what were in effect the four other governments that already overgoverned and perplexed. If anyone would conclude that I exaggerate the defects of the treaty, or in speaking of it have used one word lightly, let him first examine the volumes of correspondence between the three powers, defining and construing its meaning—the settlement of the limits of authorities and the conflicting claims, powers, privileges, and right between Kingdom and municipality, consul, chief justice, and president.

In my judgment, these constructions have not too frequently been for the best. They illustrate, perhaps, even more sharply than the treaty itself the impolicy that brought governments so dissimilar into incongruous league. In the three-handed partnership the inevitable result followed—one had to give way. In most instances, the question presented itself to ministers sitting under the shadows of European crowns in much the same light. The interest of the native of Samoa, aside from the handful of whites, was the least matter taken into consideration.

In the light that five years have shed, it was a grave mistake that the United States ever became a party to the arrangement. Yet on the part of the American people it was well meant—nobly meant. Nothing in all her history reflects more glory upon her consistent policy of help to the weak and oppressed than that page telling the story of Samoa; of the good ships and the scores of brave men who were a ready sacrifice to her appeal for aid, her threatened independence. The United States was moved by no selfish policy. She sought no territorial acquisition. She designed alone to maintain the rights and independence of a helpless people threatened with conquest, if not extinction. The great free Republic had naught to gain or lose in the making of the Berlin treaty, aside from the little prestige, and that she did not need.

The situation, as I have drawn it in general outline, is not encouraging. Yet, in contrast, it must be admitted that the imports of last year were greater than ever before; the exports were larger than any previous year. This would, at a distance, seem to afford of itself ample contradiction to all I have said—to be proof of the growing business and consequent prosperity of the country; yet it is not. If the business of Samoa for 1894 was greater than at any former time, so the excess of imports over exports was larger than ever before, the balance of trade against Samoa last year being, in round numbers, $130,000 on a total trade of $768,000.

The difficulty, so far as government is concerned, is met with at the very outset in the "many headed administration" of affairs, as it has been termed. This results in division and inefficiency. The forms of government which have been sought to be grouped together in harmonious operation are irreconcilable. Embarrassment, friction, and division of authority and responsibility are therefore inevitable. Before any step can be taken, any measure adopted, much complicated and frictional machinery must needs be brought into unison of operation. In most cases, after reaching a clear determination of the needed measure on the part of the Samoan Government and the representatives of the three powers—and even at this point, harmony of view and opinion is rather the exception—reference of the matter at issue must be had to the powers, almost on the other side of the globe, through the medium of perhaps a monthly mail. These three powers, widely separated, must in turn take time for an interchange of views in order to a common action, before the determination reached can be transmitted back halfway round the world. Fairly efficient administration can not be had in the absence of reasonable harmony of policy and interest, yet here, between all parties, is a certain degree of diversity of policy, conflict of interests, and clash of rights. Each of the powers must be more or less influenced by what it considers its immediate rights and ultimate interests. If no other questions presented themselves—no questions of trade, competition, and interest elsewhere—perhaps the entanglement might not be so marked here; but, unfortunately, such conditions do exist, and the adjustment of Samoan questions, it is to be reasonably supposed, do not find solution with a view single to her affairs alone, unmixed with regard to other and perhaps larger questions elsewhere.

I have mentioned the many headed administration. This describes it but poorly. There is first the "King and Government of Samoa," in their helpless, aimless sphere of polity and administration, supposedly governing the Samoans—all the Kingdom, in short, save the municipality, which exercises directly within its precincts, and, in effect, throughout all the realm, far greater powers and authorities than are aspired to by the general Royal Government, for it levies, collects, and appropriates to itself all the export and import revenue of the Kingdom, in addition to many specific taxes. This is no doubt grounded on substantial justice, for the white population pay the larger part of the revenue, perhaps four-sevenths, or even more. As the Government must be at a certain expense, for particular salaries are fixed upon it, which the General Government is, in view of the failure and virtual abandonment of the treaty in its probably most important feature, without revenue to meet—this municipality, not under provision of the treaty, but by direction of the powers, over and above the treaty and with a view to preserve it in operation, lends to the General Government a yearly sum sufficient to enable it to discharge the expenses referred to. Then, as between the nationals of each of the three treaty powers, the consul of each, in the exercise of the extraterritorial jurisdiction of his Government, is to all intents and purposes a government within himself, so far as concerns the citizens or subjects of his nation. In all matters of civil controversy and criminal offense, he assumes the sole jurisdiction—tries causes, inflicts fines and imprisonment, entertains pleas, appoints administrators and guardians, and, in short, except perhaps in the collection of taxes, exercises all the functions of government. Here are, in effect, five separate authorities, with a greater or less degree of governmental function. But above all these, rises yet a sixth in the complicated, compromise system of the treaty. Under this last—by virtue of which, it must be borne in mind, some, if not all, of those before mentioned find warrant and establishment—is the government of the consuls, of the treaty powers. Every act of the much-empowered municipal council must be submitted to them for approval. If a measure fails of unanimous approval, it is sent back to the council. If that body adheres to its original action, the measure then goes to the chief justice of the supreme court for final action and arbitration. He may adopt either view, or, as is usually the practice, reform and recast the entire measure, guided alone by his single judgment. A finality is thus reached through a strange intermingling of the legislative and judicial departments.

This supreme court is without jurisdiction, save in certain cases between native Samoans in matters relating to real property, in controversies and offenses between Samoans and foreigners, in appeals from the police court, and, finally, between foreigners of different nationalities. Aside from these, it is a dead letter. If all the jurisdiction, unnecessary and crude, of native and consular courts, for which, under established government, there is no substantial reason, were brushed aside and given to the supreme court, administering a single body of laws, much of the confusion could be abated. But no; in this disputed ground, which is yet regarded as the prize to be won by chance, finesse, or endurance, an English subject must have with him the known guaranties of the common law and the German must be placated with the jurisprudence of the Empire.

That none of this can be regarded by the Department in the light of information, I am well aware; but the actual inefficiency of the administration under such divisions of authority is not to be appreciated at a distance from the theater of its influence.

I say not one word against the policy of acquiring foreign possessions or the annexation of remote territorial regions. The trend of affairs would seem to indicate that a choice in the matter may not be left to us; rather, that it may be forced upon us by the march of events and the competition of the times. It is a striking fact that all the great nations, conspicuous for their manufacturing interests, are those in proportion with the most extensive colonial possessions.

The day is in sight when our export of natural productions must begin to decline, from the influence of increased population and the cheaper production of other countries. When that time shall come, we must look more and more to foreign trade. Foreign trade necessarily involves, however undesirable, a much greater participation in foreign affairs, a far more extended foreign policy than we ever knew before. This, in turn, will necessitate a navy, and a navy, to be a navy at all, will need to be equal to the best—a navy manned, provided, and afloat, large enough to be convenient to all points, rather than one on paper or housed in shipyards. The late affair in Hawaii, the experience of the recently concluded Japan-China war, the incident of the Turco-Armenian disturbances tend to illustrate the gradually extending circle of American participation in foreign affairs, whether it be desirable or otherwise. On this matter, two points suggest themselves, perhaps not so widely separated from the attention to which Samoa is entitled as at the first glance they might appear to be.

One is, whether a modern navy can be maintained on the idea that it must be dependent for its bases of operations and now necessarily frequent supplies on mere short runs from one home port to another. Can a navy so dependent be ever anything else than a mere navy of defense, incapable of offensive operations? Most frequently, as the naval history of England has repeatedly shown, the most effective defense is found in offensive expedition. In modern naval structure, of vast weight, power, and armament, the fuel-storage capacity has been steadily reduced in proportion to consumption. The time when a warship might be independent of supplies for months or years passed away with the advent of steam. All the conditions have been reversed. Dependence is no more to be placed on the bravery of the boarders; but little on the skill and sailing abilities of the commander. It is but a question of weight and power—the superiority of the machine, in short. These great machines are incapable of long voyages; they must have secure places of supply and retreat for repairs, and the many things that necessitate greater or less overhauling, which the machine so frequently demands and the machine shop alone can furnish. The question of fuel aside, a warship in these South Seas, even in the latitude of Hawaii, will, in less than six months, become almost inefficient from the fouling of the bottom.

A war ship can coal in any port in time of peace. During the continuance of peace, a coaling and repair station is not needed; they are on every hand. In time of war, when, like the navy itself, they become of the most serious importance, they may not be had at all—probably, under the ready resort to neutrality, could not be. An open beach on the side of an undefended harbor can not be mentioned as a coaling station, for even if well supplied, it is but the prize to the first vessel that can reach it. It is a misnomer to call a strip of land on the beach of an open harbor a coaling station.

England, Germany, and France are supplied with stations all over the southern and western Pacific; few, it is true, are defended, but the conspicuous fact in contrast with our situation is that they are all on their own ground and may be put in a state of defense more or less efficient, while we have claim to but two at most, and both of these are in foreign territory, which, in the present relation, we have no right to fortify. Samoa, with the harbor of Pagopago, in Tutuila of this group, therefore becomes a matter of no little moment to the future naval power, and the future, it may be, of the United States in a yet wider sense. It is a matter of vast importance to the Pacific Coast, not because Pagopago is among the best of harbors, which, in all respects, it may not be, but it is of the first importance in view that all the rest are preempted, that this one is the last that may reasonably be hoped to be acquired in the South Pacific; because, in brief, it is Pagopago or nothing.

The other matter in this connection, merely in passing, is to remark that, however desirable foreign possessions may be, if, in fact, it be admitted they are desirable at all, it is an interest with which our machinery of government, as at present constituted, is conspicuously unsuited to deal. That, under the Constitution as it now stands, a scheme of territorial or semicolonial government like that of Alaska might be formulated, I have no doubt. But such, in fact, has not been formulated. The fathers of the Republic seem to have discountenanced such an extension, judging by the fact that it was unprovided for, but as a matter of fact, they left the subject untouched, for no speck of its need obtruded itself upon their horizon. Be this as it may, the inefficiency of our present machinery to deal with distant territories, if we had that duty to any considerable extent upon us, has often forced itself upon the attention of those who have been much abroad, especially in lands removed from the beaten paths of travel. Such a change would require a different class of agents and diplomats, different in attainment and training from those we have been accustomed to regard as amply qualified for existing needs; it would, of necessity, enforce an application of something akin to civil service in the foreign service and create what has been so much objected to—whether with good reason or the contrary is not for me to say—an office-holding class.

In this latter aspect, as an illustration and in some sense a guide, important because it is the only one, although not a fair, test, for the reason that it has been and is so peculiarly complicated, our relations with and participation in the affairs of Samoa are worthy of attention and offer a not unfruitful study. It can be said in response to this presentation, that if all these unfortunate conditions do exist, they argue nothing more than a need of reform; that the treaty can be modified in those particulars where friction and conflict have been found by experience to occur, and this once accomplished, benefit must follow from the improvements and then the arrangements for government and advancement can be allowed to go on in its course, stimulating development, promoting a higher civilization. I feel sure that such a hope could only be indulged in at a distance, without a close acquaintance with the divergent interests, the ineradicable racial differences here closely grouped together on a confined field and which the working of the treaty has developed to view and shown to be impossible of beneficial union. I view the result achieved from the two standpoints of the interest, first, of the United States, and next, that of Samoa. I have briefly enumerated what may be termed in effect the many governments overgoverning these few small islands; but aside from all these, admitting that the interdistrict and island institutions and clashing authorities might be obliterated, yet four peoples, unlike in conception of the province, office, and ends of government, remain linked together in the effort to govern. How harmonious action, even if untainted with interest and design, can be the fruit of such a union it is difficult to conceive. The United States and Germany might be controlled by a single government, yet it would be an unfortunate, an unhappy union, beneficial at this stage of human progress to neither and ending in ruin. The United States and England might jointly administer the affairs of Canada, but it would most probably result, in view of the delays, halting, and conflict in the conception of policy, in many points of bearing, disastrously to the people subjected to the system.

Yet, then, the undertaking would be comparatively easy, for there the three peoples concerned are equally civilized, are contiguous almost in territory, and not unlike in institutions. As undesirable as either of the two suppositions instanced would be regarded, this in operation here is more so. It is remote from the centers of authority, and these lie far apart. As between the governing powers, the conceptions of the fundamental principles of government are as wide apart as the poles. It is at the outset—interest and future designs left out of account—as oil and water, a quartering of the liberty cap with the mailed hand, a union of the policies of Jefferson and Frederick the Great.

It was an evil day for the weaker side when the white man set foot on the shores of the darker races. Probably to the eye of the publicist, in the great march of time, the extinction of a people—a small and helpless people—is a matter of no great moment, and, yet, the contemporary can not contemplate the passing away with equanimity or satisfaction. For ages, Samoa has been the arena of faction, the battle ground of tribal warfare. These petty predatory wars, in which the loss of life is the smallest disastrous result, have become part of the very nature of the people. For twenty years, Samoa has been the football of the greater powers. Whether her position, after all these years of strife and turmoil, has been, on the whole, more or less unfortunate than that of the other Polynesian and Melanesian peoples of the Pacific, is an open question. That her present situation is deplorable, no one will deny; but she has so far emerged from the long conflict, rent and torn, during which she more than once escaped what seemed to be the decree of doom, with probably five-sixths of her lands still in the possession of her children—although, in point of value, much the better part is gone—and with her nominal independence, at least, acknowledged. With the exception of Tonga, if that in fact be an exception, she is the last independent group in the Pacific. What the future may have in store for her, is a question. Whether she is to rise into a yet better position, or sink along with the others to the point where her own children shall wander as outcasts and strangers in the land of their fathers, remains to be seen. Practical common sense in public affairs, the signs of the times, and the unhappy fate which has fallen upon other people, similarly related to the whites, are things which make no impress, give no thought to these people, little capable of lasting impression, and, in such matters, by turns but pliant or ferocious children.

It is not strange that their ideas of the great and far-away things of the mighty peoples and forces of the vast world are at best but the vaguest, isolated as they have been for ages by the stretch of the all-surrounding ocean beating upon the barrier reefs. They see only the little-changing course of the sluggish insular life. The lesson of the decaying Hawaiian, the disappearing Maori and Fijian, the heavily burdened Tahitian, the march of conquest in Madagascar, are, when known to the Samoan, but the echo from the far-off, half-unreal world beyond, without application or import—

if indeed, for him, such places do exist and if such things in fact have been done. Within their own sphere—that with which nature and experience have made them familiar—they are capable, wise, canny, shrewd enough, but in the sphere of seashore villages, for broader affairs, they are adrift.

GERMAN INTERESTS IN SAMOA.

The German interest is at once the oldest and most considerable in Samoa. It far more than equals, many times over, that of all other nationalities combined. Its groundwork was laid in the establishment of the trading firm of Godeffroy & Son, before the coming of perhaps any white man now living in the islands. Taking the estimate as approximately correct that 135,000 of the 832,000 acres of land—supposed to represent the total area of the entire group—have been confirmed to foreigners, at least 85,000 acres of this foreign-owned land belong to this one interest. To say this is to leave half unsaid. These 85,000 acres include by far the best land of the islands. In its present condition, it may equal in value all the balance of the group together. It represents the pick and choice, and why should it not? The projectors of this enterprise were virtually the first on the ground, with the country open before them, unopposed by competition, at a time when the things to be exchanged for lands had far greater value in native eyes than they have had of late years.

This landed estate was not secured in a day. By the original firm and its successor, it was, through years, secured piece by piece. The purchases of lands have not been long discontinued; it may be said, indeed, that in the form of foreclosures of mortgages given to secure goods bought of it years ago, the firm continues to accumulate.

While virtually without competition, it was not without opposition in this—that at every step it was opposed by the wise instinct, as it were, of the Samoan to cling to the land that was his. The pressure of some great necessity alone could induce him to part with the tropic forest of unbroken twilight that had been the heritage of his "family." By attention to opportunities, these occasions were, in pursuance of the persistent policy of enlarged and ever-enlarging domain, discovered and taken advantage of. Purchases were made. When the opportunities were lacking, they were produced. The prices paid were—what? Anything that an untutored savage, consumed with the one desire for a gun or ammunition at the outset or in the midst of a war, could be borne down upon to accept. There were also money and other considerations. In some cases, governed by special conditions, reasonably fair prices were paid. More than this, to make titles secure, the same land was undoubtedly bought and paid for over and over again. It was often bought from natives who had no shadow of claim to it. Who does possess an alienable title to land—the land, any land—is among Samoans a something that shifts and changes like the drifting clouds. In the face of all, the "firm" bought and bought. Well it might. In the speculative value that golden visions of boundless crops of coffee and cotton and sugar that needed but to be thrust into the intensely fecund soil, once in a decade, lent to the lands, with copra at $130 or $140 a ton—if but a part of the titles so secured could be maintained, the part actually acquired, even with a loss of half or more, would still be had for a song. And, then, these titles, had from any wretch willing to put his mark to a paper written in a language not one word of which could he understand, might, nay, most likely would, in the rapid revolutions of the whirligig of time, in the new-formed power of Germany, all be made good. German confidence had been tested with tremendous results in the Franco-Prussian war. An era of power, naval extension, and colonial possession opened out before the victors. A German firm had long before established itself on these islands, dominating all the trade of the South Seas. Here, of all places, if colonial possession was to come, and surely it must, was it first naturally to take root.

The elder Theodore Weber was the purchasing agent. He was an actor playing many parts. At different times, he was both consul and manager of the firm, well adapted to the parts he acted and the stage of his operations. He was a combination of energy, capacity, ability. His own interest was his guide, and this was closely bound up in that of his employers. One ponderous deed book in the records of the then American consular agency is nearly filled with his deeds. It is strange that his deeds should be recorded in an American consulate, but he had a purpose in it. His purchasing agent was the American consular agent, making most of the purchases—one Jonas M. Coe, who had been a resident of the islands for years, coming originally under the name of Brown. The larger part of the deeds (there was no official acknowledgment) are indorsed, as having been understood and acknowledged by the vendor, by one Groht, an employee of Weber. Coe recorded them. The incident where, through some mistake, one of them came to light duly executed by Asi, a native petty chief, with the body, or space for description, left blank, to be afterwards filled with the boundaries of any land, has been often referred to and illustrates the procedure in vogue.

In time, the old firm went down in a crash. It was succeeded by the new firm, made up in part of creditors, but the most active period of purchase was from 1871 to 1875. The vision of commercial supremacy encircled the greater part of the South Seas within its gilded confines. In its enlarged sphere and prospects, a name for the new corporation was sought commensurate with its future. Der Deutschen-Handels und Plantagen Gesellschaft der Sudsee-Inselen zu Hamburg was the outcome, and such is the name under which the corporation to-day struggles along, with other and far more practical difficulties in the shape of prospects unrealized, experiments disappointed, and an enormous debt.

The history of this firm for twenty years has been the history of Samoa. Rather, it has made by the unfortunate influence it has been able to exert upon the representatives of the country of its owners—which country, to the native understanding, hopelessly entangled with the physical company here, is pardonably synonymous with and a part of it—that maimed and mutilated chapter of Samoan history, which tells the story of dissension, of wasted energy, of stagnation, of endless wars and feuds, of rebellion, of the deportation of unpliant chiefs, of a King kidnapped in his capital, of turmoil incessant.

The attempt made to forcibly take possession of a country while a conference as to its fate was in effect in progress, the deportation of its King on grounds so specious as to be unworthy of serious consideration, were strikingly in accord with the procedure in Samoa from the beginning. All these things were done in the interest of the German firm. Had that firm been without interest here, there would be in effect scarce an excuse upon which to hang the tangled thread of German intervention in these islands. But these proceedings were met in a way not anticipated, and, to save time, it is sufficient to say the Berlin conference was assembled and the treaty was the outcome.

Among the many difficult questions presented for its adjustment, the question of land titles was not the least. Was it after all to come about that these hundreds of titles, acquired, in greater part, by the enterprise of Weber, were to be annulled? The difficulty of determining who, in fact, under Samoan custom; or law, as it might be termed, was authorized to alienate lands was known. Here was the opening, the saving loophole for the firm to make good its titles, and the opening was not overlooked.

The provision of the treaty on this point is, in short, that all titles acquired prior to August 28, 1879, are valid if purchased from natives in good faith, for valuable consideration, in regular and customary manner. The regular and customary manner is meaningless beyond that it must be in a writing signed by the maker.

The land commission, appointed in pursuance of the same treaty, in construing this section, held that on this point but one defense was available—the native, perhaps the actual owner, who, for the first time, heard that his land had been sold years before from under his feet, the house from over his head, by some person whom he may never have seen, and who, perhaps, he had never even heard of, much less held an interest in the land; that defense was to deny and establish the absence of good faith in the purchaser in making the purchase. That is, to go into the heart and conscience of the man presenting the paper title and establish that at the time he bought, or made believe he bought, the land, he knew he was not buying in good faith from the real owner. So the treaty construed, so the treaty meant. It in effect cut off all contest in this class of titles. I neither indulge in nor insinuate any criticism as against the commission. It doubtless judged that it must take the treaty as it found it. The titles were made good, not by investigation, but by the bunch, or by bunches corresponding to the section and article of the treaty.

The treaty cut both ways, as to lands at least. An American corporation, known as the Polynesian Land Company, had bought large tracts of land outright; it had taken options on yet larger areas. It claimed in all, by option and otherwise, not far from 400,000 acres, slowly gotten together through years. It had paid out in all probably as much actual money as had the German firm for its lands. It had made no improvements, had no trading station to buy lands for guns, cartridges, and goods.

The treaty, which, in one section, so sedulously protected the foreign purchaser by enshrouding him in the shining halo of good faith, suddenly turned its face in the other direction and provided that all claims based on mere options to buy or promises to sell should be held void.

The American company, out of its claim of about 400,000 acres, established it to about 20,000. On this point, the treaty is explicit; there was no room for construction. The land commission held that it was authorized to deal only with claims as between the native and the foreigner. If land was claimed by two foreigners in conflict, wholly or in part, as between themselves and a native, the commission could deal alone with the claim so far as it concerned the native, and the foreigners must be remitted to the court to settle their conflicting claim. The American company, as against the native, established claim, as has been stated, to about 20,000 acres, of which the German firm lays claim to some 3,000 acres in round numbers. The controversy is in the court, and not yet decided. I am without information as to its merits and therefore express no opinion.

The German trading and plantation company, fortunate in so many ways, like everything else, met its difficulties and disappointment. Its hope of monopoly was never realized. The splendid scale of its operations was of itself a constant invitation to other large operators to enter a field where so much was to be realized, judging by the extent of the German plant. Half a dozen great concerns, at different times, entered the market, as merchants and buyers of copra. Each in turn withdrew, crippled or bankrupt, but if they had met defeat and loss, they had kept up the market price of copra, had limited the business and profit of the firm, had defeated its monopoly.

Competition sprang up on every side in many small hands, but active and aggressive. The frequent mail steamers calling at Apia soon made the small trader and storekeeper independent of the great brown warehouses of the firm. Labor nominally free, slave in fact, became more difficult to procure, consequently more expensive. The improvements, the planting of the plantations, the building of great mansions, the construction of the miles and miles of fine roadway leading through the groves of cocoanut were commendable, but expensive and nonproductive. Coffee proved a failure; cotton, although it required to be planted but once in half a decade, in the stony soil, failed at last to return the cost of production. Every added experiment dispelled an illusion, blighted an expectation. Copra, the great staple product, year by year declined in price until it reached a point but half that which it commanded when the groves were planted; gradually, its little fleet of vessels became smaller, as did its little army of imported labor; its great warehouses were no longer gorged with imported goods, a depot for all the

South Seas; its business in other island groups was disposed of until the Samoan and Tongan islands alone remained; its influence visibly declined.

If the "firm" has many things charged against it, much should, in justice, be set down to its credit. In its sphere of improvement, development, and experiment, it has stood and stands without a competitor. It has cleared and planted, built and improved, developed and experimented on a splendid scale. It has poured out its money by thousands of pounds. Nothing in its operations have been conducted on a niggardly scale. It has employed scientists, naturalists, experimenters in numbers. It has entertained and aided all such as came of their own accord. It has introduced variety after variety, analyzed soils, tried methods, rotation, fertilization, and grasses. What the greater part of all the world knows of Samoa's adaptability to agriculture is from this single source. If this is to be a land of wealth and plenty, the credit belongs to the "firm." If its disadvantages have been made known, if its chimeras dispelled, its small value demonstrated for the benefit of others, all has been done at the expense of the "firm."

What its real financial condition may be is a matter of uncertainty. No more is known to the public than it chooses to give out. It paid a small dividend in 1893, claiming to have passed a larger sum to the reserve fund. In 1894, it paid no dividend, claiming again to have turned the entire profit into its reserve. The net profit in 1893 is published, in round numbers, at $63,682; in 1894, at $53,762. The value of the plantations is placed at $622,222; uncleared lands, $442,222; buildings and lots in Samoa and Tonga, $67,410; total, $1,141,854. The capital stock is stated at $687,000; liabilities, at $420,000. Its business is conducted on primitive lines and with almost the formality and secretiveness of diplomacy, with which it has long been so closely allied. It is understood to be open to purchase as an entirety.

Such is the "firm;" such is the main—nineteen-twentieths—of the German interest in Samoa.

INTERESTS OF OTHER NATIONALITIES.

The British interest is far less. Indeed, the American interest and stake in these islands is but little less than that of the British, while the number of those claiming the protection and citizenship of the last-named nationality greatly exceeds that of either of the other two, perhaps is larger than both together. But it must be understood that in these islands of many governments all are not British who are accounted as under that protection. The same is true of American and German citizenship. A large proportion under either head are half-castes and castes of all fractions. They are the children of white fathers; that is all it means. Very many have worn lavalavas all their lives and could with difficulty be understood in English, if at all. All the Chinese are British subjects.

The possessions of the Polynesian Land Company taken into account, the British ownership exceeds the American. As a matter of fact, if lands belonging to the estate of a British subject lately deceased and those of the Polynesian Land Company be not considered, the holdings of either of the two nationalities would in quantity amount to but a trifle. What the British ownership on the basis last supposed would foot up, I am without data to state; but the American would but little, if any, exceed 1,000 acres in all.

The American share of the cost of the land commission from its beginning has amounted to a greater sum, in all probability, than the total value of all American property in the islands.

Germany and England—that is, at least as represented here, and the local view is most likely the reflection of that held at home—are each waiting for some turn in affairs, some accident or chance which shall make Samoa her own. Such is to some, but in a more modified degree, the American aspiration as held here. The established policy of both England and Germany in the direction of extension and territorial aggrandizement gives courage to the hope of the subjects of these two nations, respectively, that every day draws nearer the final realization of the long-cherished, much-schemed-for desire.

The fact that the American policy has been directly the reverse of the two former, and more especially the virtual declination of the United States to accede to the free offer of annexation tendered by Hawaii, have, taken together, led the very small American colony here to almost abandon the hope of American annexation and to look upon it as something not likely to occur, and far distant in the future, at all events. The German and British opinion is that American annexation is out of the question, not to be named or mentioned, not worthy of consideration. The American representation being so much less numerically than either of the other two, consisting for the most part of foreign-born persons, naturalized as American citizens, who in nearly all things affiliate with one of the other nationalities, there is less friction between Americans and the others than between themselves.

In local matters, such as town elections and in nearly all social affairs, especially of a public nature, the division is sharply drawn between the German and English speaking elements.

The town council, consisting of six members, is, as it has been for a long time, evenly divided. One end of the town elects three Germans, the other three English-speaking members. The president of the municipality, a treaty official, being, as has always been the case, a person detailed from the German civil service, the preponderance is with that nationality; but all works smoothly and without great jar at present. As stated, each of the two nationalities are waiting for the day when it shall see its flag fly over the land where four flags now flutter in inharmonious union, symbolic of a governmental fiction. It might not be correct to say all, but nearly all, the white population—and whatever may be said of it in other respects, like all communities in which the adventurous, the hardy, and the necessitous predominate, it does not lack common sense—have united in the common hope, one hears so often expressed, that some one power will take possession, bringing this chaos to an end. It is reasonable that this should be the case, for they have their hard-won all embarked where none, in the cloud that hangs upon the future, dare build or improve—for without the limits of this mere village there is no security in any form, save in the mere amiability and kindly disposition of the natives; no security for crop or production, because of the disposition of these same natives to recoup a lifetime of idleness by industrious, wholesale pilfering, unremittingly prosecuted.

NEW ZEALAND AND SAMOA.

It would appear in this focus of Samoan affairs, where the beating of its pulse can be plainly felt, that no great store is set upon Samoa in English Government circles. England has vast colonial possessions in the western Pacific already, and the acquisition of these islands would add but little to them. On this point, public opinion in England is mainly directed by the sentiment of Australia and New Zealand, especially the latter. There, for some reason—most probably with the view to the extension of commercial relations, which no doubt in a thinly populated country, almost wholly devoted to pastoral pursuits and the distribution of the products of other countries, is keenly to be desired—there is a very determined sentiment in favor of the annexation of Samoa to that particular colony. There is in all this, of course, an ebulition of a certain provincial jingoism.

The idea of New Zealand's annexation of Samoa seems to have evoked in England in high quarters more amusement than it caused serious consideration. In spite of that, however, and its rather humorous suggestions that New Zealand itself is still the subject of a not very remote annexation and in view of the fact that she is as yet but a governmental experiment, with one of the largest public debts per capita in the world and a sluggish development as the most conspicuous results, English opinion is no doubt to a considerable extent influenced. I suspect the real truth to be that England is content to do without Samoa, so long as the latter remains unannexed by any other country, especially the United States.

Such is the policy of waiting—the slow test of endurance, the survival of the fittest, or, rather, the most patient—which, in the end, through the caprices of forture, the accident of chance, or the sheer force of stubborn determination, is to shape and decide the future of Samoa. If such a policy is to be approved on any ground, that approbation is not to be found here. During the leisurely progress of events leading up to such a final determination, the interests and welfare of this country are being sacrificed; whatever development it may be capable of is being dwarfed, retarded; it is being arrested in its competition with other countries or groups of like kind by the first of all considerations—the lack of governmental security and stability. This is a country whose progress must be slow and poor enough under the most stimulating encouragement; in the absence of the necessary share of that stimulus which good government—some government—affords, nothing worthy of account can be hoped for. Its material advancement and its accompanying moral elevation must be struggled for on the planes of arduous labor and close economies. The speculative visions have all been dispelled by the searching light of time and experiment. The welfare of foreigner and native alike are bound together; both are involved.

If I be correct in supposing the existence of what I have termed the policy of waiting, it need be scarcely characterized as an ignoble, a selfish one—one in which the United States is not willingly a party, one not in accord with her traditions, one in which she is discredited by the association.

It is, on the whole, a partnership which virtually commits her, in addition to a share in responsibility for a failure, to the toleration of a system which is slavery all but in name; which solemnly obligates her to the support of a puppet King on a barbarous throne, which, if left to itself, would in a moment topple over from innate helplessness into a chaos that its occupant would be as little able to recognize when it came as he is to avert in prospect.

INDUSTRIAL CONDITIONS IN SAMOA.

Turning aside from the political conditions and their unsatisfactory complexity, there can be but little doubt but that great misconceptions exist in the minds of the American people as to Samoa and its real worth. That this should be true is not surprising in view of the glowing pictures which, through report and press, have at intervals appeared. It has been again and again represented as the perfection of climate, as a peculiarly favored spot where all the productions of the temperate regions and the tropics flourished side by side in competitive perfection and as the sanitarium of the world. That such accounts should find circulation is easily accounted for when it is remembered that they have necessarily been the result of the inquiries of nonresidents, relying on hearsay. If one will, on the ground, trust to what he may be told, he will be led to indorse all these roseate accounts; if he will turn to actual examination, nine-tenths will be rejected.

It may be said of foreign residents and natives alike that they do not lack in good opinion of their country. A landowner here, such as elsewhere would be called a farmer, will solemnly declare, over and over again, that almost every valuable crop, as fast as they can be enumerated, can be here grown in perfection, in the face of the naked, rugged fact that every mouthful of provision, save in the form of a few insipid vegetables, that in a lifetime has gone to sustain his family and himself was imported; imported in barrels, sacks, and boxes, but for the most part in closely soldered cans and tins. In answer to the inquiry why all or some of these things are not produced, if it can be done so abundantly, rather than imported such distances at great cost, one will be told that the only reason is that people do not do it, will not do it, are without the necessary labor, etc.

The fact is, Samoa is conspicuously unfit or unable to grow the principal productions of the tropics. If they could be adaptably grown, the rugged, broken, and stony surface of the country is such that, until the world becomes so densely populated as to be compelled to turn every small bit of land to account, agriculture in this land could not thrive in the face of competition. There is a vast difference between growing a thing and growing it profitably. This difference, those who have made wildly exaggerated statements as to Samoa failed to take into account. The truth lies, it seems fair to say, halfway, scarcely halfway, between worthlessness and excellence. Things are to be taken relatively and with allowance. In a damp, hot climate nearly everything will grow, will sprout and run up, if that be growing. This fact seems to satisfy those who make the broadest claims, yet it is very misleading. So far, as more than half a century of trial and experiment has demonstrated, nothing will thrive here except the indigenous productions of the tropics. A very few introduced varieties from the temperate zone will show a partially satisfactory result, but not one will show thorough adaptability—anything approaching a basis of profit.

The plain common sense of all this matter is easily arrived at. The productions of all lands are in general controlled by their climates, and these are wisely, compensatingly distributed. There is, there can be, no reason why Samao should be an exception, as it has been so broadly claimed to be. There is no tropic belt through the northern part of the United States or Canada. Yet it would be as reasonable to expect such a contradiction in nature, as to find these islands, not unusually elevated, lying close under the equator, where the thermometer never falls to 60°, competing with the winter belts on the one hand, while crowned with the luxuriance of the tropics on the other. Nature indulges but few and modified exceptions at best. In Samoa, if there be any such, they are more than offset by soil and surface.

The cost of living in this group is to-day from 200 to 300 per cent greater than in the average of the cities of the United States. This is unquestionable. It stands to reason, in the face of this, that the country does not produce enough, not to say abundantly, of the food products that, among white people, are accounted as necessaries, to sustain its small population. If it did, the cost of living would, of course, be much less.

PHYSICAL SAMOA.

Samoa, the Navigators' Islands of the old geographies, is a group of volcanic islands in what is now technically called Central Polynesia, consisting of four principal islands, lying south of the equator between the thirteenth and fifteenth parallels and the one hundred and sixty-eighth and one hundred and seventy-third degrees of longitude west from Greenwich. Indeed, the fourteenth parallel strikes the coast of this island (Upolu). The number of the group, by counting the smaller ones, may be increased to eleven or even to fourteen. These islands are but the protruding points, the uplifted peaks of a submarine chain of volcanic mountains running nearly northeast and southwest, lifted by upheaval, added to and built up by the discharge thrown from the many now long-extinct craters. The washings of the heavy rains, the rushing and undermining of shifting streams in a loose soil, the landslides—all the various processes of erosion spread and shifted the soil and the great and small bowlders with which it is so impacted, in all directions toward and into the retiring sea. Here the flattening, spreading process was ever met and arrested by the continually growing, always renewed coral reef, until dammed as it were, a wide stretch of bench land, tapering out into into the beach, was formed, varying from a quarter of a mile or less in breadth to 3 or 4 miles, surrounds the larger islands, like an encircling platform, abutting on and becoming a part of the foothills at the base of the mountains of the interior. Vegetation came in all its varied abundance in the quickening tropic climate, through ages enriching a volcanic soil of original sterility, and in its accumulation many low-lying places and depressions were more or less filled, forwarding the eternal process of leveling. As in all tropic countries, the barrier reefs encircle all the larger islands more or less, and especially Upolu—brown and bare in many places at low water, submerged at high tide, when the surf booms and bursts upon them in miles and miles of snowy whiteness.

Between the outer reef and the shore, stretches a lagoon of many tinted waters, varying in width from 200 yards to 2 and 3 miles. At very many places this generally smooth water, never of sufficient depth for large boats, is impassable for small ones except at high water. This surrounding belt of calm water is, in effect, a canal encircling the island. It is the secure highway of trade and communication provided by nature. By this means all intercourse along and around the shores is had. On this water in small boats is gathered together the production of the islands to the sheds and warehouses on the shores of the many little bays, formed by some stream of fresh water cutting away, or rather preventing, the building of the reef. Through this same means all supplies and trade are distributed. Interisland traffic is carried on by means of small cutters and schooners, generally under 50 tons.

Apia is the single port of entry. Here all this little trade is centered at last, every article imported or sent out of the islands passing through its customs, save in the case of a few ships allowed to take on cargo, under special provision, at Mulifanua, the site of the largest German plantation.

Savaii, the most westerly island of the group, is much the largest, most rugged, mountainous, and stoniest. It is separated from Upolu, the seat of trade and government, by a stretch of about 12 miles at the narrowest point, but between lie the most beautiful and productive of all the small islands—Manono and the still smaller Apolima, a mere extinct volcanic peak.

Thirty-eight miles off the eastern coast of Upolu lies Tutuila, in proportion to its extent the loftiest, most broken of all—three islands, in fact, the main island inclosing Pagopago Harbor. Sixty-two miles still further to the eastward is Manua, consisting of three islands—Tau, Ofu, and Olosega—

separated from each other by but a few miles. Yet further on to the eastward 80 miles is Rose Island, a coral lagoon of no value and uninhabited. This last is generally accounted as belonging to the Samoan group, but I believe no authoritative determination of the fact has been had.

The entire length of the group from one extreme to the other is little less than 300 miles, if Rose Island be taken into account. Savaii is, as has been stated, the largest island of the group; Upolu, Tutuila, Manua, and Manono follow in the order named.

Savaii is roughly estimated as 45 miles in length by 25 in breadth; Upolu, as 40 miles in length by 15 in breadth; Tutuila, as 17 miles in length, with a breadth of 5 miles; Tau, one of the Manuas, is 6 miles in length by about 4½ in width; Olosega, another of the Manuas, is 3 miles long, with a breadth of a third of a mile, while Ofu is a mere islet. Between the larger islands there is ample open sea passage of great depth, free of rocks and all obstruction to navigation. Commodore Wilkes estimated the total area at 1,650 square miles. An official report made in 1878 added very considerably to this estimate, stating it at 2,500 square miles. An accurate survey has not yet been made, but the many surveys of tracts and distances, incident upon the investigations of the land commission, have served to approach much greater accuracy, resulting in a material reduction of both calculations, and, while not assuming to be closely correct, have determined the gross area at 1,300 square miles. This mileage will probably be yet further reduced to some extent as surveys progress.

On this basis, the gross acreage is, in round numbers, 832,000 acres. Of this, it would be a liberal estimate to suppose one-twentieth part in cultivation. While there is no data to guide, it would be a stretch of liberality to suppose one-third susceptible of cultivation.

Samoa is, in effect, a territory larger than the State of Rhode Island by 50 square miles; smaller than Delaware by 750 square miles, and possessing of really good soil, if all were assembled in one body, less than that included in any one of at least a thousand counties in the United States. Cultivated land in Samoa is understood to be that set in fruit or nut bearing trees and bananas. Aside from the area devoted to these, the acreage otherwise planted or farmed is too inconsiderable to be taken into account. The lands on Upolu are not only the best, but the proportion suitable for cultivation is much larger than that of any or perhaps all the remainder of the group. Most probably for this reason, it has supported the larger population, hence has always been regarded as the principal island, while but second in point of size, dominating in public consideration and in all political matters.

Many causes have worked together to lend to Samoa a consideration disproportionate to its importance. Its central position, which early made it the rendezvous of the whaler, the missionary, and the trader, and, consequently, the center of an established business; the handsome appearance of its people, their gentle ways, courtliness, and proverbial hospitality; the seductive charm of its climate—all contributed to this repute. But in addition to all these and to no small degree must be added the surpassing, absolutely unmatched beauty of its scenery. Every story book of the nursery, every tale in all languages that told of islands of eternal summer, of valleys bright with flowers, of mountains wreathed to the summit in never-fading verdure, of tropic fruits to a surfeit, of blue seas and surfs of silver, were indirect advertisements of Samoa. Here were the amiable, gentle people of beautiful manner and dignified bearing; here was a land which gave to its children all their simple tastes craved without the tribute of labor. Other islands were beautiful, but their inhabitants were abhorrent, ferocious, or both; other islands were clothed in perennial verdure, but they were flat and monotonous, or, if they were uplifted in mountains, the barren and bleak crags and heights marred and blighted the beauty of the valley. In Samoa, there was none of this. In bay and stream, in mountains of green and waterfalls of silver, in cloud and sunshine, in flowers, in fruits, in tossing palms, in blending of color, in security, in the very welcoming smile of a light-hearted people was, at last, a picture in which there was no blur—it was the ideal picture of the island in the South Seas, the dream of childhood realized when it was all but forgotten. The beauty of the picture has influenced every account given of it. As beauty in other lines has been often held an ample compensation for serious faults, so the seductive charm of these islands has hidden in no small measure the sterility of its soil and its many grave disadvantages. If its worth were commensurate with its beauty of landscape, it would stand without a rival. In nature's subtle system of compensation, this visible charm is dearly bought.

The interior of the larger islands, away from the level land bordering the shore and the foothills, draws rapidly away into lofty mountains. These have not ranged themselves, save to a modified degree, into order, leaving great or small valleys available to use in their laps or between their ridges, as in the case of the uplifts in the great faults formed in obedience to the extended influence of the globe's contraction. Their irregular, eccentric formation and relation will be best understood by bearing in mind that they are entirely volcanic, pitched fantastically together as the sides burst out, as the running lava flowed and cooled, or as the ejected scoria, mud, and ash, through ages of accumulation, were tossed and drifted by the winds, often fierce. They are regardless of order, save to a general trend in accord with the long way of the island. Ages have turned the lava and clay into soil. Decayed vegetation has enriched it, but mingled with, imbedded in, and impacted with it in every cubic foot, save in the few depressions the humus and vegetation have covered, as I have said, are the scoriac bowlders, black, indestructible, iron in hardness and composition. In size, they vary from a marble—a mere iron gravel—to great blocks, tons in weight. The deepest, best soil would seem to be half small stones and gravel. This varies until the ground appears to be all bowlder and scoria, until they completely cover the surface. Aside from such a depression as I have mentioned—and it is more than apt to be a swamp—it would be a mere chance to drive a spade or a pick into the surface without striking a bowlder. The soil is undoubtedly strong and rich enough, although it exhausts much sooner than would be expected from its color and composition, as is found in growing bananas; but the universally distributed scoriac bowlder presents what would practically appear to be an irremediable difficulty to cultivation.

These mountains, based on basaltic rock, which, in the valleys and along the water courses, crops out at every turn, are, without, naked stone or sheer rocky cliff. In the loose formation, slowly piled aloft, in which so much loose, detached stone is carried, the action of the elements has smoothed and graded every surface. Through all, the water courses, under the tremendous rains turned into furious torrents in a few minutes, rushing down great heights, have gullied and cut and cañoned the surface into fearful gorges and chasms, into the bottoms of which no man has as yet ever penetrated.

The sides of these mountains are in many places not far from perpendicular, yet such is the climate that they are held in place by the network of growth that covers them. Over such a surface as I have described, filling every gap and opening, finding a footing between bowlders, no matter how closely packed, shrouding the valley, climbing and capping the peak, is spread a tropic forest of often giant trees, with enormous, spreading roots, gnarled, twisted, of eccentric, fantastic shape. Every space is struggled for by a sapling. Enormous vines are pendant from the tops, hang from one to another, writhe and twist up the sides and upon the ground, weaving all into an almost solid body, through which a man to advance must cut his way at every step. In the density of the growth, every tree, every vine reaches up, up to the light to bear its foliage to the life-giving sun. Underneath, where the ground never dries, the sun's rays never penetrate, the twilight has brooded for centuries.

The mountains of Savaii are stated as reaching an elevation of 5,000 feet. They are doubtless higher. Those of Upolu have been generally accepted as 3,000 feet in height at the greatest elevation. As a matter of fact, an accurate determination made within the last month establishes the elevation at the highest point to be 3,416 feet.

One of the striking facts in regard to the composition of the soil and its admixture of gravel is, that aside from such places as are entirely covered with large bowlders, and in swampy lands where there are no bowlders, there seems to be no more stone or gravel, the soil being as deep on the top or sides of the mountain as in the lands lying no higher than the beach.

I saw a grave of ordinary depth made on the very top of the mountain, and yet the soil was as deep, differing in no way, so far as I could see, from that in a cemetery situated more than 1,000 feet lower, and, presumably, selected because of its freedom from large stones and the depth of the soil.

To illustrate how little is really known of the interior of these two larger islands, aside from the few beaten paths, how absolutely unexplored they are, and this must surely be attributable to no other cause than the great surface difficulties presented, two facts may be cited. High up in a gorge on the side of a mountain, in plain view from many points in Apia, is a waterfall of the Vaisigano River, really a mere creek in volume, which fairly accurate measurement has shown to be something over 270 feet in uninterrupted, perpendicular fall. When the sunlight falls upon it, it appears as a snowdrift in a cleft of the mountain and can be seen from vessels a great distance at sea. That waterfall is not more than 7 miles distant in a direct line from this town, and yet it is safe to say it has never been visited by as many as a dozen white men, and no one has ever penetrated to a place near its foot. Again, within the past few days, a surveying party on the mountain discovered an extinct crater, perfectly circular in form, with a rim like a chimney top, and not more than 400 or 500 yards in diameter. Its depth was so great that from the scrubby growth and the gloom no bottom could be seen. It was unknown even to the natives by report or tradition, and yet it is not more than 8 miles distant from the harbor.

I need scarcely add, there is no population, no settlement in the interior. Ancient remains indicate that in the remote past the population dwelt inland, probably as a security from the sudden invasions of marauding tribes of a sterner type from other islands. Now, the entire population is a mere scattered file stretched along the shores. The only exception to this is found in a few settlements back of this town; but these taken into account, it is still, I believe, a fact, that there is no settlement, no human habitation, native or foreign, as far back as 4 miles from the coast in any place.

These facts can not be without a meaning. They are full of significance to that not inconsiderable class of persons in the United States for whose benefit I mainly write—those who, persuaded by the highly colored accounts of Samoa, contemplate immigrating to this little country. From such persons a large number of letters of inquiry are received at this office, as before stated. It follows in reason that, if this land were so productive, of such a variety of adaptation to profitable culture, it would not, in the light of to-day, lying directly on the line of one of the great globe-encircling routes of travel, be left to the unbroken silence of the wilderness.

It is said by those who have had the advantage of personal inspection, that upon and within the mountains and in the interior there is much good and fairly level land. Of this, I can not speak from knowledge, and give the statement for what it is worth.

THE AGRICULTURAL PROSPECT.

These considerations of the matter of soil and surface lead up to the whole problem of the future of Samoa, agriculturally and financially considered. The country has no future before it, practically, if it is not to be found in agriculture. Resources and stores that bless other countries are outside the vision of hope here. Those varied industries which give progress and prosperity to countries which nature has provided for with a niggard hand, compensating for absence of original advantages, are not reasonably to be hoped for here. Samoa must rely wholly upon agriculture as its only resource—it is that or nothing. This one reliance is beset by a combination of many disadvantages, and it practically seems to be, from a commercial standpoint, limited to a single production. What has been said of soil and surface does not epitomize the only obstacles lying in the way. There are unfortunately many others, all tending in their sphere to arrest development and retard this little country in the competitive struggle. If these thus generally referred to did not exist, the obstacle first mentioned would, in the present state of the world's progress and present prices, be serious enough to encounter. Commercially considered, mere ability to produce is a wasted quality, a nothing; there must be productive capacity at the least expense—low-cost production, in short. Commercially considered, a thing had as well not be grown, if produced at a greater cost than an article of the same quality can be produced elsewhere. This view is subject, of course, to modification as to distance and freight rates, which are usually, but not invariably, regulated by distance.

Such a forest growth, such a soil, such a surface means labor, and labor means expense. Practically, there is no such thing as expense of cultivation as understood elsewhere. There is, in effect, no cultivation, no stirring of the soil, which is impossible, except, perhaps, in a minute garden patch, from which the stones might be picked. Once a thing is planted, it must be left to care for itself, needing no other attention than to keep the weeds from overgrowing it. The soil admits of no cultivation, save, laboriously, by a hand tool. There is no office for what is known as the agricultural implement. There is not an agricultural machine, not a plow or a harrow, in all these islands; not a place, so far as I know, where either could be used over a space sufficiently large to justify, if it would allow the use at all. All must be done by hand. The pick, spade, crowbar, and grubbing hoe are the implements of husbandry. This is, of itself, quite sufficient to satisfy the practical farmer of the inutility of cropping in competition with soils susceptible of machine cultivation; but this does not state the whole of the difficulties.

Clearing involves heavy labor and great expense in a country where the growth is such as I have attempted to describe, and which may be readily imagined far better than description can serve when it is remembered that it is tropical. I have endeavored to ascertain the cost of original clearing, but have never had two of many estimates agree. It is said to be from $30 to $45 per acre; that is, as the term cleared is here understood, and which means the trees felled and the smaller, in a damp climate, laboriously burned. In this condition, the logs encumber the land, and the stumps are left several feet high because of wide-spreading, bracketed roots. To a neat farmer, such land would scarce appear cleared at all, and I am persuaded that there is not an acre of land in the island that, on the basis of return on the investment, is worth the cost of clearing for agricultural purposes.

Lands once cleared must be continuously freed of the young trees and vines that spring up spontaneously from the old roots. They must, by persistent cutting, be kept under until the land is gotten into grass. If left for a year, almost a second cutting would be required. Once in grass, the growth and weeds may be kept down with moderate labor.

The native grass is worthless, and appears more like a weed than a grass, as it is very short, and bears a sharp spine or small thistle. Buffalo, Johnston, and orchard grass have been introduced with varying results. Probably the first named has given the most satisfaction. It has been planted very largely in the German plantations. Planted originally with a view to save labor in the struggle with weeds and undergrowth, it has been continued for pasturage. Cattle are not found to thrive upon it, however, and being planted on lands devoted to cocoanuts—in effect, the one real production of the islands—the diminished quantity of the nuts and appearance of the trees have led the managers to fear that the grass is prejudicial to the trees—starving them, as the horticulturists express it. It is a question whether the grass will not in turn have to be eradicated.

All the matters mentioned under this head bear directly on the question of labor. In substance, it is a question of labor and wages at every step. The restricted agricultural adaptability of Samoa, so far as the commercial aspect is concerned, is met by an obstacle not less serious than that of soil and surface, and that is the question of labor.

LABOR.

All labor employed in Samoa is imported contract labor—slave, all but in name. It comes from the Gilberts, the Solomons, New Britian, and the various island groups of the western Pacific peopled by the Melesian and Papuan types. These creatures are "recruited," as the term goes, by the importers, commonly called "black birders." This is the survival of the slave trade, lingering in the twilight of the nineteenth century. It would be difficult to state clearly under what conditions it is procured; probably the method adapts itself to circumstances and is alike in no two cases. The traffic is carried on by hardened wretches, who adopt it as a profession. If their accounts were entitled to credit, the laborer is engaged of his own free will. This, according to all the side lights thrown upon the calling, is true in probably the smallest number of cases and is as far removed from the truth as can be. The "black birder" is paid so much a head for each man or woman procured. This is of itself enough to satisfy anyone, taking into account the vile character of anyone engaged in such a traffic, that in dealing with so degraded a type of humanity as these "black birds," as they are called, represent, that no expedient, however cruel or infamous, is left untried to secure them. The calling is regarded as a dangerous one. The cruise of the recruiting ship lasts for months and until a cargo is had. Generally she lies off along the coast of an island, moving from point to point. Two boats go ashore, if the conditions are favorable, both amply armed, and while one makes a landing for negotiations, the other lies out a short way, within rifle shot, to protect the shore boat against treachery or ambush.

The laborers are usually boys just grown. They are of low stature, spare to emaciation, and, while frail looking, are capable of great endurance, and are readily trained to the rude and severe labor they are made to perform. Many of them have great openings cut in the lobes of their ears; some have the cartilage of the nostrils pierced, and others are slashed and scarified over the chest, one form of tatooing. Most of them burn and bleach the hair with lime until it is a yellowish white, presenting the appearance of a wig of dirty wool. They are morose and taciturn in manner, and, in whatever light they may be viewed, present a most wretched, pitiable, and repulsive picture.

Into the secrets of the traffic and the real character of their treatment during their term of service it is very difficult to obtain an insight. Those having them in charge are reticent, and investigation is not encouraged. Much of the labor of Fiji is had in a more or less similar manner, but consists, in by far the largest part, of Indian coolies. In Fiji, they are under governmental inspection and protection, and are better treated in every way, but are not supposed to be overindulged.

It is said, the greater part of those leaving their native islands voluntarily, under whatever conditions induced, and brought to Samoa, are led to believe they will be taken to Fiji.

Those in Samoa from islands under what is called British and German protection are said to be free to make complaint to the resident consuls of those governments, and are under a certain nominal supervision; but when they are for months at a time, or during the entire term of service, on a distant plantation, herded together in groups like beasts, possessing little intelligence at best, under overseers divested of the restraint of ownership in the human machine, with no motive to spare beyond the interest that cautions against its impairment by overexertion, this inspection and protection may be readily estimated at its worth. It is a cruel, canting farce.

It is understood that hereafter no labor will be permitted to be recruited in islands under British protection for Samoa.

Under all the unfavorable circumstances surrounding such a service, I believe, on the whole, from all that I have been able to learn, that they are perhaps rather better treated than one would at first be willing to believe; still, such a service is abhorrent, and the openings for wrong and cruelty are endless. They seem to be returned to their own country at the expiration of the term, but it is said that under the form of penalties and through many pretexts the duration of the term is often extended.

They are engaged for a period of three years, at $30 or $36 a year and, in addition to some articles furnished during their stay, are paid off at the time of their departure with a wooden box and a few articles of petty merchandise of a character and color apt to tempt such tastes. Every threadbare argument, worn to shreds to excuse slavery when it existed in the United States, is brought to the support of this labor system as it is now practiced in the Pacific. On the plantations, a jail is ready for the confinement of the refractory, while the manacle and the lash are resorted to, as occasion may suggest or the temper or sobriety of the individual determine.

It is trifling with everyday experience, a disregard of common sense, to assert there is any real protection to the victims of such a system.

Slavery as it existed in the United States, if more to be reprobated in many respects, was possessed of more ameliorating conditions than the same institution recognized and fostered here under another name and guise.

Such is the institution upon which rests the labor fabric of Samoa as its substantial basis. So long as it is maintained, so long as the United States continues to occupy its present relation in a compact in which that feature is encouraged, it is difficult to discover how she is to escape a share in whatever responsibility it may entail.

The best that can be said in its favor is that the "black boys" are from the most degraded type, from cannibalistic tribes engaged in perpetual savage warfare between villages and districts, in which life has no value, cruelty no measure, and mercy no place; that they are, perhaps, better fed, better treated, better situated in Samoa than in their native wilds, learn something of civilization and carry a share, perhaps, back with them when returned. The question, at all events, is susceptible of the two views.

The resort to such labor so procured, like all other things, has its cause, and a reason lies behind. Bearing in mind that, at best, unsatisfactory when all the many charges are counted, it is expensive enough. The alternatives are negro labor or none. The Samoan will not work; this a half century of white occupation has so demonstrated that he is never thought of in such connection. No branch of the human family surpasses him in indolence. The climate, with its spontaneous production of food ample for all his wants, heredity, and the immemorial canons of his social system leave no room for sustained labor. For this crowning defect he is, of course, not to be condemned as a white man should be. He is as unable to understand that which we have come to regard as the law of nature—a lifetime of exertion—as we are to contemplate a like period of aimless idleness. He is yet what nature made him, and will not be changed in his economies as long as a vestige of his institutions remain. Whether he will be better or worse under the change is not of moment here.

There is no reason, or at least very little, why he should labor. All the simple food he relishes comes to his hand spontaneously, or nearly so. He uses no clothing, or next to none. There is no season of severity or scarcity to be provided against; he needs but the merest shelter from the rains, and this the tropic vegetation around him supplies, requiring but to be put together and in position. There is little incentive to labor, none to accumulate. Each is a member of a common family; all things, subject to slight modifications, are held in common. When something is to be done or procured all move together, and there is no question or division as to share of anyone in the fruit. Anyone of a family of a widely extending circle of relations is entitled, as of right, to a place in the house, or any house, and a share in everything around him. He must, under the extremest penalty of social ostracism, refuse nothing to his family or tribe. There can be, under such a system, no motive to thrift, no reason for accumulation. To be provident is but to better serve the improvident.

Yet out of all this system, which seems fraught with ruin, come many commendable features, spring many admirable qualities and usages. It does not end in stagnation at the threshold, as would be expected, for tradition comes in, imposing many duties. The word of the head of the family is a law unto his little clan; over these, again, is the responsible direction of the chief, who, while he may not be created out of common clay, can be unmade for unfitness; above and beyond, are the great chiefs and the rulers of the district, all moving in accord with fixed, established laws and traditions calculated for the government of a society so constituted, and which are, in fact, the necessary outcome of their institutions, the teachings of the ages.

PHYSICAL QUALITIES OF THE SAMOANS.

The Samoans, especially the men, are a race of splendid physique, handsome, bright, strikingly erect, sound, healthy, vigorous, of tremendous strength. They work, contradictory enough it may seem to say it, hard enough in their own way, but it is by short spells, with many and long interruptions. They are scarcely able to sustain severe and extended effort; with all their strength, they wear out, and have no quality of endurance comparable with that of a white man. The lifetime of almost entire idleness must find occupation, or, even with such a people, its very monotony would make it undesirable. This has been the mainspring of a great number of ceremonials, of endless grave formalities, pageants, all more or less absurd, but of the first importance in their estimation. Every common affair of life is made the occasion of parade, meetings, ceremonious visits, grave arbitrations, and endless speechmaking. Long observance of all these have lent to them much of the inviolability of obligation, until they must not be overlooked or left unattended. Friday and Saturday everything else is put aside to secure food for Sunday, which must be rigorously observed. Frequently during the week the other occasions interrupt; if at irregular intervals the equivalent of two day's work is done, it is as much as can be expected. If so circumstanced that the Samoan loses an employment, it is a matter of utter indifference to him; he is deprived of nothing in consequence. His wants supplied with the least exertion, he makes no more than barely sufficient for his needs. While the trees and plants, which furnish his supplies in prolific abundance, have but to be set in the earth, relying unconsciously on the chance supply of the mountains and the bush, he plants so sparingly that between every interval of the many seasons of plenty, he undergoes a period of scarcity which not infrequently becomes one of suffering.

This idleness leads to endless discussion, the discussions lead to great meetings, these to the endless, purposeless wars, in which the trees in the invaded territory, being destroyed, are the greatest sufferers, and the whole prosperity of the country is arrested for years as a consequence.

It need not be added that in the field of labor he is not to be relied upon for a moment; he cuts no figure. Labor must be looked for elsewhere.

His very faults in this regard, while grave, are amiable, and perhaps out of place, as it may be; the temptation is irresistible to add that, however they may unfit him for contact with that modern civilization pressing hard upon him, they have made him, regardless of other things, the best mannered, the most generously hospitable, the most courteously polite man to be found in any land, civilized or otherwise.

PRESENT AGRICULTURAL CONDITIONS.

Such are the characteristics of the two prime factors of agriculture as it exists in Samoa to-day—soil and labor. As in all countries agriculture is the chief and base of all other interests, in this little island Kingdom it is even more—it is the single, the sole one. Commercially, every dollar coming into the country must be in exchange for the crude product of the soil; broadly speaking, none can come otherwise. Every cent's worth of goods imported, and, in effect, every article used, with the exception of such vegetable supply as is devoted to immediate consumption and a vague quantity of native pork, is sold for money received in payment from a single source—agriculture.

The entire export of Samoa for 1894 (leaving out of account goods in bond) was $254,630. Every dollar of this was the produce of the soil. All other export was so small that the customs report marks under the proper space, "no record." All this export was for three articles only. Of this total, a single article—copra (dried cocoanut meat)—constituted $248,570. The two remaining exports were cotton and coffee, and both together amounted to $6,060—less cotton than is raised on any single one of hundreds of plantations in the Southern States, and this article of export, it is well to bear in mind, was produced on a single plantation.

To what a trifle, when put to the test of figures, does the often exploited agricultural wealth of Samoa shrink! The entire volume of export, including copra, and all other articles of merchandise of every kind, first imported and shipped abroad in bond, amount to a total of $316,473. This is the export, the sales of a year; that, too, the largest in its history, of all its productive ability, all its purchases from other countries. It seems that in the light of these figures, the presentation of the character of the surface and the situation of labor before made, finds striking confirmation. All the corn, the cattle, the grain, the valuable timbers, the sugar, the spices, and numberless articles of commerce which find so much space, swelling into so great a prospective volume in the enthusiastic reports made of these islands, find no place in its customs returns. This, after fifty years of white settlement, is not a flattering contrast, remembering that any one of several of the blue-grass counties of Kentucky, or counties in States scattered all over the Union, would greatly exceed, and in instances double, this production many times over.

FRUITS.

All tropic fruits flourish and are abundantly produced, requiring no fertilizers and little attention beyond pruning. It is the land of fruits and flowers suited to its climate. Oranges, lemons, limes, citrons—all the citrous family—guavas, pineapples, mangoes, mummy apples, bananas, passion fruit, alligator pears, custard apples, and many other varieties, all thrive and produce abundantly, of fine quality and flavor. There are no apples, pears, peaches, apricots, plums—none of the numerous berry family, classed under the head of small fruits; none of the fruits of the temperate regions; nor are there any grapes. Watermelons and the melon family produce fairly well, the watermelons varying in size from small to medium. For some reason, they are but little grown and very rarely seen.

Bananas are of many varieties, and are to be had, of the finest quality, throughout the greater part of the year, selling ordinarily at 25 cents a bunch; but from about the middle of May to the latter part of June they become quite scarce, as do all the other fruits named at certain periods of the year, for all have their seasons of ripening in the order of nature, though most of the fruits bear more than one crop during the year. It has been said by a distinguished authority that the banana produces a greater weight of fruit per acre than any plant of the vegetable kingdom. In Samoa, as in most of the South Sea islands, it is more a staple article of diet than a fruit, as it is regarded among white people. It probably furnishes 25 per cent of the total of native food, being eaten roasted and boiled when in the green state. Ordinarily, to white persons, when so prepared, it is tasteless and unpalatable.

The banana is an exhausting crop wherever grown, and it is here so found to be from experience, the usual practice being not to grow it on the same ground longer than three years, and frequently not more than two. But this varies, as with crops in other countries, much depending on the fertility of the particular localities, for all, as elsewhere, vary in this respect. The plants are of great size, reaching a height of from 16 to 20 or 25 feet, I should judge. In the native usage, the leaves serve many purposes and are universally adapted to the various uses that plates and dishes are among civilized people.

There are wild oranges, used as a substitute for soap, but edible oranges of different varieties seem all to have been introduced. When fully ripe, as in most tropical countries, they are of a rich, dark-green color and deteriorate as they become yellowish. They are sweet enough and of good flavor, but are in quality not equal to the average of California and Florida, being much more largely composed of pulp.

It would seem that the future of agriculture in this country, aside from copra, considered apart from merely supplying its own population, would lie in the growing of the fruits adapted to its climate; but changes must come before this can be realized.

This prospective industry is, for the near future at least, faced by a serious obstacle, which exerts an unfortunate influence on the commerce of the country and hence upon the country itself in every way. That obstacle is distance, and in most respects distance and freight rates are synonymous. As to fruit, distance and relative location are of more moment than even ordinary freight charges. Fruit demands a short, or, at least, rapid transportation, and Samoa is shown, by a glance at the map, to be about as distantly situated from considerable centers of population as could well be selected. But two fruit markets are, as things go to-day, possible—California and the Australasian colonies. California is fifteen days by steam, and the freight rates, considering the distance, are prohibitive. Then California is itself a fruit country, with others more contiguous. Auckland, N. Z., is five days distant by steam, with about 50,000 population, while all New Zealand contains a population not much larger than Baltimore. Sydney, with a population of 400,000, is eight days away by steam. These colonies, considered collectively, have many islands situated more closely to them, growing tropic fruits under more favorable conditions than Samoa, notably Fiji. In the light of these facts, it is easy to understand why no fruit is shipped from Apia.

GARDEN VEGETABLES.

Many table vegetables are grown, in a small way, and with little encouraging result. I speak of the table vegetables of the temperate zone. They are unsuited to the climate, and it must be confirmatory of this view that a vegetable garden is an infrequent sight. I have heard many persons, even here, claim that vegetables do well, if they were cultivated; but there must be a substantial reason why they are not grown when land is so cheap, where a great many white men often find serious difficulty in procuring employment, and tinned vegetables are dear.

Vegetables, other than canned, and potatoes are not often seen on the tables.

Radishes are of good quality. Sweet potatoes, probably from the dampness, do not thrive and are coarse and insipid. Native yams are large and abundant, but coarse, with little taste or flavor, although relished by the natives. Turnips are a failure. There is no asparagus or celery. Pumpkins and squashes do fairly well, but run into vine. Carrots and parsnips are small and poor. Vining or string beans grow rapidly, produce abundantly, and are very long in the pod and of medium quality; I speak of them in the green state as a boiled dish.

Tomatoes are, when carefully attended, fairly good, as are cucumbers, the former, with favorable conditions and from imported seed, being occasionally to be had as large around as the top of an ordinary teacup. In general, as they are to be had, they are about the size of marbles.

Cabbages are grown in a small way, but are a failure. They are fibrous, tough, will not head, and are scarcely to be recognized, presenting a weedy appearance. Irish potatoes fail also. They seem to run wild, becoming sweetish and woody.

Such are the vegetables. The chief reliance in this respect is upon canned goods and importations for the fresh articles. Both cabbage and potatoes are imported from New Zealand, the latter rather largely. The former are sold at prices wholly regulated by the supply that may be on hand in the town and the willingness of the purchaser. Potatoes are 3 and 4 cents per pound or from $1.80 to $2.40 per bushel, also regulated by the state of supply.

These prices, taken in connection with advertisements of storekeepers, announcing "fresh vegetables by every steamer," would seem to indorse the statement that, as a general fact, there are no table vegetables grown. In this connection, it may not be out of place to say that all butter is imported in cans or jars, selling at from 50 to 62½ cents per pound for Danish, with fresh milk at 40 cents per gallon, although the condensed preparation is most generally used.

Poultry is limited to ducks and chickens and a few geese. Chickens are fairly plentiful and of good quality, but are reared with difficulty, on account of rats. Eggs are something more than half the usual size, and sell at the unvarying price of 25 cents for seven or eight; the dozen is unknown. A few live turkeys are occasionally imported, selling at from $3 to $4 each.

INDIAN CORN.

So far as my observation has enabled me to learn, corn comes more nearly up to the type common in America than any vegetable I have had the fortune to see, for it is rather as a table vegetable than as a field crop that it should be regarded here. It grows rapidly, producing in a very few weeks in fair abundance. It is planted by being dropped into the unprepared ground, in an opening made with a spade or with a pointed stick, and covered over. It receives scarcely any attention, other than in the young state being freed of the abounding weeds. It is not planted in rows, but put in without regard to order as the soil permits and the scoria will allow. It is not hilled up and the stalk is short and slender, much resembling in size that grown in the New England States. The ears are of good size, and the edible qualities all that could be asked. From the rapid growth, probably, the rows do not fill evenly, perhaps from a quarter to a third part having "blind rows." From my observation, that from seed partially crossed with the yellow variety produces more evenly and abundantly than the white.

Practically, corn is not grown, and need not be considered beyond the stage in which it has been treated. As a field crop, it is beset by two difficulties, under which it can not be profitably grown, if grown at all. One of these is that it would require to be dried in the sun on a platform, protected from the frequent showers. Even then it is apt to spoil, if stored in quantity, and in a short time the weevil is likely to appear. The other difficulty comes from rats, with which the bush swarms. The longer the crop stands the greater number it attracts. They usually destroy the latter part of the crop, and a second is out of the question on the same or an adjacent field.

The labor of the kind I have mentioned, employed on the German plantation, is fed almost wholly on farinaceous foods, and corn was formerly grown for that purpose and for the stock. The corn is now wholly imported, although more than three hundred laborers are employed.

SMALL GRAIN.

Some reports have represented Samoa as adapted to the growing of small grain. The soil, the climate, the frequent and sudden showers would seem, in the absence of practical trial, to contradict this; but I am not able to venture a statement on either side of the matter, for the reason that, so far as my inquiries have brought information, there never was a bushel of any one of the small grains grown in the country. That they would sprout, grow, and produce a seed of some description is probable, but I speak of the matter as seen from a practical standpoint. If all the grains would produce in abundant perfection, the rat plague would not permit them to be grown.

SUGAR AND RICE.

The extent to which the glowing pictures of the agricultural value of Samoa have led to misinformation, is well illustrated in the many letters received at this office from manufacturers of sugar and rice machinery in the United States, seeking a market for their implements and products. Sugar cane is grown on many low places by the natives, solely for the leaves used in thatching. It will grow from the same stalk or root for years. The natives are fond of chewing the cane, and, for that purpose, it is sold for a cent a stalk. What has been said of the soil, surface, and labor is of itself sufficient as to the prospect for sugar. If more were needed, it is found in the fact that, so far as inquiry will inform, there never was a pound of sugar made in the island. As to rice, there are no suitable places beyond a few mere spots, certainly none was ever grown in any appreciable quantity, and I am unable to learn that in fact any was ever grown to any extent whatever.

An intelligent observer, long a resident, extensively engaged in planting, states it as the result of his observation that in stony soil—that is, on other land than the small swampy spots—sugar cane is cut into near the root by worms and ruined through the loss of the sap. Sugar is sold by retail in Apia at something more than double the price of the same article in the United States.

TOBACCO.

Tobacco is generally grown, in a small way, by the natives to supply their own needs, every householder growing a small patch. Smoking is universal, men, women, and children of the tenderest age being given to the practice in its one form—that of a long cigarette rolled in dried banana leaf. Smoking is frequent rather than constant, the cigarette, after a few drafts, being extinguished and tucked over the ear, as a pencil is often carried, to be in convenient place when again wanted.

Tobacco is put up in small round bundles of from 3 to 5 pounds in weight, tightly wrapped by a thick cord of vegetable fiber, some 18 inches to 2 feet in length, tapering to a point at either end. In this shape, it is laid away for use, or sold to traders, to be bought back by the less provident at double price.

It is very dark in color, spongy, not fine in fiber, rank and sour in flavor. Much of this is doubtless due to the method of treatment. It is never used by white persons, except as a last resort. The leaf is small, not larger than the smallest wrapper leaf, for which purpose this article could not be adapted, on account of the proportion of woody stem.

As far as I have been able to observe and learn by inquiry, there seems to be but one variety, and this is not indigenous; all introduced varieties, while producing one or two crops, somewhat true in kind, rapidly degenerate into the common type of the country. The near proximity of the sea probably explains, in part, the inferior character of the tobacco.

In a community made up of those who are indebted to their own exertions and economy for a start in life, and where, after more than half a century of settlement, there are still very few who can be reckoned as moderately well to do, it may be assumed that tobacco has not been overlooked in the effort to find a remunerative product, suited to the country and climate.

In 1893, tobacco and cigars were imported to the amount of 21,607 pounds, and in 1894 to that of 8,571 pounds, valued at $4,440. Estimating the total white and half-caste population at 500, an overliberal estimate, and bearing in mind that the natives use none of the imported article, this gives for the year 1894 an average consumption per head of cigars and tobacco of $8.88.

Tobacco is subject to an import duty of 50 cents and cigars of $1 per pound, a sufficiently high rate to stimulate domestic production. Under the light of these figures, it would seem that the production of a merchantable tobacco in these islands may be regarded as a failure.

COTTON.

Cotton was the earliest of all the introduced agricultural industries, for if the cocoanut, the chief product, be not indigenous, it preceded the advent of the white man by a great length of time. Aside from the barter of manufactured articles for copra, when it first began to take a place and find a demand in the commercial world, land for the growing of cotton as well as copra was the motive which led the firm of Godeffroy & Son and the other argonauts of the South Pacific to acquire those great tracts of country in Samoa, by far the greater portion of which, still wrapped in primeval solitude, lies hidden in impenetrable cañons or hangs on inaccessible mountain sides after forty or fifty years of foreign ownership. Large areas—thousands of acres in extent—have been cleared, planted, and expensively beautified through which vistas of tropic verdure in varied succession unroll before the eye like glimpses of fairyland, their thousands upon thousands of lofty cocoa palms swaying their pendant plumes amid the endless summer, in unprofitable, if luxuriant, beauty.

During the continuation of the civil war in the United States and for several succeeding years, during which much the greater part of the world's supply of cotton was withheld completely, or furnished with slowly increasing abundance as the Southern States recovered from prostration, Samoa became a cotton producer. In this period, when all stocks were exhausted and the staple commanded a price which now appears enormous, every partially reclaimed island of the South Seas was, under the stimulation of high price overcoming natural disadvantages and expensive labor, made a producer of cotton or the field of the planter's experiment. Every island contributed its proportion to make up the deficiency and to secure a share of the profit. Fiji became a considerable exporter of cotton, and Samoa was looked upon as permanently fixed in the list of cotton producers. It was expected that in time the price would decline, but no foresight could anticipate the steady decline of all these years, or that it could ever reach a point where culture would become unprofitable. That point was, however, passed years ago, and the growing of cotton is now looked back upon as one of the curious experiences which a mere combination of circumstances indulged as an experiment rather than as the passing away of a once-established industry.

In the absence of real adaptability to the plant, all over the islands of the South Seas its growth has been abandoned. Whatever inducements climate may offer, soil and labor more than counterbalance. Fiji now produces no cotton, and the trifling remnant of an abandoned crop, which Samoa in a few bales last year sent abroad, is but the growth of the surviving plants set out several years ago. As these continue, in virtual abandonment, to produce, the staple is marketed because it is worth the gathering from the existing plants, while original planting could not be done.

The high prices of the two real staples grown in these islands—copra and cotton—induced all the clearing and planting by whites which has ever been done. The period of high prices, even of moderately remunerative return, has passed away as to both; as to cotton, certainly, in the railway development of the world, forever; as to copra, for a very long time, at least until the earth is much more densely populated or until a new and considerable use for cocoanut shall be discovered; and of both articles it is equally, but in less degree, true that original planting, not to mention the expense of clearing, can not be profitably done. As a consequence, crops from natural plants and trees continue, of course, to be gathered, but no new clearing is made, save, perhaps, a new patch about a home. The forest primeval still holds its domain, and the sound of the axe no longer startles the brooding silence. Indeed, in some instances, lands once devoted to cotton culture, but not at the same time set in cocoanuts, as was the custom, and so now nonproductive, are being again overrun by forest growths, and would have to be again subjected to an expensive clearing to be brought once more into cultivation.

The method of culture prevalent in Samoa was to plant cocoanuts and cotton in the same land, in alternate rows. Once the land was cleared, cotton was planted to occupy the soil and afford a return until the cocoanut trees came into bearing. Even after this, and while the trees were still of a size not to overshade the cotton, a second and sometimes a third crop of the latter was planted. When the cocoanut trees began to reach early maturity, bearing a reasonably full crop, the cotton plants or trees were cut away, as the cocoanuts were supposed to sufficiently tax the fertility of the soil. Again, the shade of the well-grown trees was supposed to be disadvantageous to the cotton directly, and by intercepting the direct sunshine to prevent the rapid drying of the cotton protruding from the open and opening bolls, a very material consideration in this land of very frequent and heavy rains. These frequent showers, in the end, whether cotton was overshaded or in the open field, had the effect of giving the matured fiber a dark or yellowish hue, so that on the score of color alone Samoan cotton was never of high character.

The frequency and heaviness of rain, in addition, involved another feature adding to the cost of production, and, in the end, restricting the culture to large planters able to undertake the expense. The rains required the use of drying sheds, where the cotton might be thinly spread to dry. On a large plantation growing copra, corn, and other crops, these sheds could be utilized for the purposes of drying and storing these as well. When cotton became so advanced as to require immediate picking, it might be saturated with moisture. If the picking was commenced under the best weather conditions, in this climate where heavy rains come suddenly and often pass away in a few minutes, the picked cotton was liable to be wet in the baskets before it could be removed from the field. Again, in so damp an atmosphere, the seed would not dry while the staple was in bulk, and ginning was retarded and difficult. In the face of these conditions, drying sheds were adopted and found, from experience, to be a necessary part of the equipment of culture.

Experience led to a method of culture found to be the best, whereby three plants were grown together, in rows 12 feet apart, the cluster of plants standing from 6 to 9 feet apart in the row. Even and exact planting could not be had on account of the frequent presence of large stones, so that the distance had to be accommodated to such conditions. Instead of being planted in ridges or hills, as is the case in free soil, the planting was here done in holes or depressions necessarily made by the removal of the scoriac bowlders, which, when pried up and removed, to afford the necessary loose soil for the growth of the plants, left a considerable depression. These holes served a certain measure of convenience in picking, for the plants reached a great height, which the holes partially overcame.

Cotton required to be planted in this country but once in four or five years, the latter being generally considered as the limit of productive life. Two crops a year were gathered, the first, or principal, crop being picked as the bolls matured, along from the early part of June until the middle of September; the second and smaller crop, from the middle of October until on in January. From 900 to 950 pounds per acre is considered a good yield. Kidney was found the variety best adapted to the country, while sea-island was found unsuited, the climate being too damp. Kidney made an average yield of about 1 pound of lint to 3½ pounds of seed cotton. The cotton plant, from the time it reached its early growth, required to be constantly and judiciously trimmed, the process requiring experience and judgment. This operation was necessary, in the first instance, because the plant, becoming rapidly a large bush or small tree, reared its bolls aloft out of reach of an ordinary man. Trimming or pruning was resorted to in order to keep the bush in ordinary bounds, but the great abundance of soft, green shoots thrown out all along the main stalks taxed the nutrition of the bush to the disadvantage of bloom and staple.

Pruning was found to stimulate the production, and, indeed, save to a slight degree, there was no crop where trimming was neglected.

The largest crop in volume ever produced in the islands was that of 1878, when, on the German plantation at Mulifanua, on the west end of this island, 1,007,000 pounds of cotton in the seed was raised on about 1,500 acres of land. The production and export has steadily declined, until it fell in 1892 to $7,775, $10,940 in 1893, and to 69¾ tons, valued at $4,818, in 1894.

Its further culture, it need scarcely be added, has been abandoned.

COFFEE.

When the adaptability of the Hawaiian Islands to coffee culture became demonstrated, as was believed, it was naturally supposed that the Samoan group, lying south of the equator, about the same distance as the Hawaiian does to the north, would be found equally well suited to its growth.

The great profit found in coffee growing, which was so greatly extending its culture in Mexico, in Central and South America, was confidently believed to open the field of wealth and prosperity to Samoa, which, in addition to other supposed advantages of climate, possessed, along with a sufficiently rich soil, all that could be desired in the matter of elevation, for its mountains uprose in many places above 4,000 feet, the proportion of true soil to that of scoria scarcely differing on the mountain side from that on the beach lands.

Stimulated by these prospects, a large area of land, well selected, a portion of the Vailele plantation, and known as Utumapu, near Apia, on the mountain side, was, in 1881, set out in coffee trees. The area actually planted was about 350 acres, and, in 1888, additional land was being cleared to be devoted to the same crop.

In 1888, a blight, known as the Ceylon disease, from the fact that it first made its appearance in the coffee plantations of that country, attacked the trees of Utumapu, putting an effectual end to the future of Samoa as a coffee producer. As the trees, one by one, in spite of all precautions and the application of every known remedy, became infected, they were destroyed, while the disease slowly but surely continues its advance to this day, with the same progressive certainty that extinguished the coffee industry of Ceylon. Some coffee was in a small way planted by private individuals on other parts of Upolu, but no encouraging result has followed, although in one instance the few trees escaped the blight.

As the trees of Utumapu have been irregularly cut away and burned as the blight appeared, it is difficult to estimate the area still covered by the scattered, surviving trees, if it were consolidated into a single tract, but it is believed to approximate 50 acres, which every year grow less. The only export of coffee from these islands is from the survival of that plantation. The land upon which the venture of coffee growing was made is apparently upon well-selected lands, situated from 1,000 to 1,200 feet above the level of the sea. Like everything else, the future of coffee and the origin of the disease are matters of many conflicting opinions. Some hold that the same conditions produced the blight here that gave it origin in Ceylon; others hold to the not improbable belief that the infection was imported already fixed upon the young plants. In this state of opinion, there are some who believe that, when the last of the existing trees shall have been destroyed and a period of a few years shall be allowed to extinguish the germs of infection, Samoa will again present an inviting field for the coffee planter. In this connection, it is noticeable that the large corporation by which this considerable planting and experiment was made, and one having such extensive interests at stake in these islands, which it has sought so earnestly to make profitable, are content, apparently, after one trial in this direction, to let the lingering trees die away, harvesting such a remnant of a crop as they produce, without effort to eradicate the infection, preparatory to a second planting. That corporation seems satisfied with its experience, without encountering the risk of future loss.

As said before, opinions are many and widely different as to the origin of the blight. It is more than probable that, while in every such general result, many causes combine, the elevation of Utumapu was not sufficient and the annual rainfall too great. Again, the average temperature of this country is considerably in excess of that of the more favored coffee-producing districts; for while such districts are, in many instances, as near to the equator as are these islands, the intensity of the temperature is overcome by the altitude of the planting districts. For instance, in Costa Rica, the coffee plantations are, in nearly all places, situated more than 3,500 feet above sea level, while 68° and 76° F. represent the usual extremes of temperature, the annual rainfall being from 40 to 60 inches. In Samoa, the range of the thermometer is from 70° to 93°, and the yearly precipitation much more than double that of Costa Rica. While the coffee districts of Brazil differ considerably in temperature and rainfall from those of Costa Rica, the differences are not so great as those found to exist between the latter country and Samoa. On the whole, these differences taken into account and the result of the complete and well-sustained experiment of Utumapu remembered, it is difficult, even under the promptings of a contrary desire, to resist the conclusion that Samoa is never likely to take a place in the category of coffee producers.

The trees planted have borne very fairly average crops in quantity, of a well-colored, somewhat small, but well-formed and compact berry. The flavor is excellent, and, as an after-dinner coffee, is equal to the best Java, but, withal, is very deficient in strength and body, requiring almost double the quantity to produce a beverage of the same strength as good Java. This fact alone, were it found to be true of all varieties that might be grown in these islands, would leave the Samoan article without a place in the general markets.

It follows from what has already been said that the production and export has steadily declined. In 1887, it amounted to 90,000 pounds; in 1891, the export value was $5,145; in 1892, $1,890; in 1893, $2,125; and for the past year it fell to 17,920 pounds, valued at $1,242. While the decreasing remnant of a crop will no doubt continue to be marketed, so long as the scattered tenants of the plantation shall survive, the quantity has ceased to be worthy of account, and the figures of last year may be considered as pointing a period to another of the many bright theories not long since indulged in connection with these beautiful, but little favored, isles.

WOODS.

Much has been written of Samoan woods, their beauty, abundance, and variety, but in the cold light of fact there is but little foundation for the visions "that this mass of developed vegetation, if properly utilized, would be a source of great wealth," as one writer hypothetically puts it. There can be no question but that the variety of woods is very extensive, and that a limited proportion may in time, under some peculiar use, or meeting the demands of some fancy of fashion, become valuable; but for practical lumber-making purposes none of it is adapted, nor will it ever find a demand. It is a common assertion that the mountains are covered and the deep gorges filled with fine timber, were it accessible. In a practical sense, this is incorrect in the first place, and if the present inaccessibility precludes its use for lumber purposes to-day, the same cause will, at least to a very remote period, stand in the way, unremoved and insurmountable. The limited extent of these islands, to say nothing of the ever-rising, ever-piling masses of mountains, must for all time limit their production of any article, all other considerations left aside.

No production within the range of probability can ever be so great as to induce the construction of good or passable roads to reach the timbers in the mountain fastnesses in such a broken country. As a matter of fact, the timber on new lands is regarded as an obstruction and a hindrance, since it involves large expense in clearing, and in the abundance of its kinds is absolutely worthless. It is in the dry season slowly and laboriously gotten rid of by burning, after being felled, a sufficiently slow and difficult work in a damp climate of frequent showers.

Most of the woods are very soft and light, which, after becoming well dried, lose not only a great proportion of weight, but become brittle and of no practical worth to sustain lateral strain.

In addition to these there are several varieties of hard wood, such as the ifelele, talia, pau, toi, nisla, tau, and the ifi (*Inocarpus edulis*), which can scarcely be said to be abundant. Several of these are beautiful, very hard, and susceptible of a high polish. One or two varieties grow to a fine size and are in request among the natives for making kava bowls—wide, shallow vessels hollowed out from cross sections of the butt of the tree, generally from 18 inches to 2 feet in diameter and sometimes reaching 3½ feet in width. Woods employed for this purpose would doubtless cut into veneers were there a demand for their peculiar color and grain by the fancies of fashion; but such does not at present exist, and there is no probability that the mere eccentricity of taste will ever take a direction to create a demand.

A large amount of hard woods are used in making the common canoe of the natives. These are mere logs hollowed out, and the largest, with rare exceptions, would not require a log of more than 2 or 3½ feet in diameter. These canoes are hollowed laboriously out of the log on the ground where the tree is felled, being hewn away until the boat is a mere shell of from 1 to 1½ inches in thickness, except at the bow and stern. When thus lightened to a minimum, they are dragged and carried to the water.

While large trees are numerous—in abundance, one might say—yet they are not in proportion to the extent covered by the forest or to that common in a country of merchantable timber, plentiful or found close together. The dense character of the tropic forest, the deep shade, moisture, and heat has, naturally, in such a climate the influence of so thickly crowding the surface with shoots and young trees that the forest is a mass of slender saplings, overcrowded and dense, all under the stimulus of the need of light and air, towering to reach the open space above. In such a bush, the large trees having attained size on some principle of survival of the fittest, abound in necessarily limited abundance.

These large trees of nearly all varieties flare out at the butt in ribs or inverted brackets until they cover a space at the surface of from 12 to even 20 feet.

Bearing in mind that by far the greater proportion are of soft, porous kinds, soon going to decay and fitted but for fuel, the remainder are worthless for ordinary merchantable lumber, as may be readily understood, remembering that they are the product of the tropics. The exceptions are so few that it may be asserted as a comprehensive fact that if the greater part of all the timbers of a marketable size were of a material equal to pine, poplar, or redwood, they would still be unfit for building and lumber purposes. They are not of straight grain, as is required for boards or framing timber, but are so twisted, knotted, gnarled, and contorted in shape that, if made into an ordinary board, the grain would so often be cut, so often pass through, that the board would be of little value.

This bent and knotted quality in the hard and tough varieties produces, however, a most excellent material for knees in small and medium size wooden vessels, for which it is much used. In a general sense, it is, perhaps, in this employment that Samoan woods find their greatest value.

A sufficient contradiction, it appears to me, to all assertions as to the great abundance and adaptability of the woods of these islands, is found in the fact that, after more than half a century of white settlement, not a saw-mill of any character or capacity has ever been introduced. Indeed, while such may have been the case in isolated instances, I doubt if a Samoan tree has ever been converted into boards.

All the lumber used for all the various building and unnumbered domestic purposes is imported. Redwood and the pines from the Pacific Coast of the United States are most generally used, but a good deal of kauri, or the pine of New Zealand, is also employed; but the American article can be sold at a less price, because of the lower cost of manufacture, through the employment of machinery in manufacturing and in handling, as compared with the primitive methods in vogue in the Australasian colonies.

The freight on lumber is from $7 to $10 per marine ton. Lumber is sold, according to the supply on hand in Apia, at from $45 to $60 per 1,000 feet, board measure; but $50 may be taken as the general price. Lumber is subject to a duty of 2 per cent in common with all commodities, save a few under specific duties. These prices are strangely in contrast with the often-repeated representations as to the good quality of the native lumber, and little penetration is required to arrive at the conclusion that where the trees could be had for a trifle, if not for the mere removal, such prices would, before this time, have stimulated lumber manufacture, if it were possible.

FIBERS.

Much was expected in years gone by from the production of fibers, and an array of plants was cited producing fibers of a merchantable character. The intervening years have allowed the shipments of various samples to Europe for experiment, but the experiments were such that no encouragement or demand followed. The fiber obtained from the covering of the cocoanut is practically the only one produced in these islands. This article is well known to commerce, and long ago took a place in the manufacture of mats, and, to some extent, as a substitute for hemp in twines. In all cocoanut-growing countries it is, of course, abundant in proportion to the production of mats. In these islands, it is used by the natives in making all the twine and small rope their needs require and does not enter into export. From its abundance in many countries where labor is reliable and can be had for a greatly less price than in Samoa, it can not be expected to become even a small factor in trade.

TEA.

Tea has never been experimented with in Samoa on any scale. The country is not regarded as adapted to its growth, and some good reason must be behind the fact that, in the search for plants likely to yield a profit, tea has not been taken into account. From what is herein said of soil and climatic conditions, there is no room to account tea as suited to the country, and the results of the large, thorough, and disastrous experiments in tea planting in Fiji, which was for a long time regarded as peculiarly well suited to tea culture, may be accepted as conclusive of the prospect of tea growing in these islands.

Some years ago, tea was introduced into Fiji, after some favorable experiment in a small way, on quite an extensive scale. The variety grown and believed best adapted to the country was that known in America under the general classification of black tea.

Two very large plantations were set out and equipped with the most approved appliances in every department, the best practicable superintendence to be had, thoroughly acquainted with every detail of culture and cure, being provided, and for some years the result was regarded to be a financial as well as a physical success. The latter it may be fairly said to have been, for the tea was excellent in flavor, ample in production, and Fiji tea became to a considerable extent a favored kind in many markets. The labor question in Fiji, while much more favorably disposed than in Samoa, is still not on the satisfactory basis of civilized communities, and this, with other things, notably too great a rainfall, combined to produce the Fiji teas at too great a cost and in the face of other obstacles as compared with other and better adapted tea-growing countries, where labor is to be had for a low price.

As a result, the day of tea growing in Fiji has already waned and departed. It could not be continued save at a loss, and after an expensive struggle, sustained by the hope of an improved market and price, one of the great tea plantations has been within the present year abandoned. Its expensively reclaimed and planted fields of great extent have been surrendered again to the overgrowth of the original bush.

CACAO.

Many who have looked in vain for the adaptation of some plant remuneratively productive of an export staple, which might bring wealth and prosperity to this country, are turning their attention to the growing of cacao (theobroma), the nut forming the basis of chocolate. In the countries where it is indigenous, or the culture well established, it has proven to be very profitable. It was introduced into these islands several years ago and, so far, it has not been a success. The results have been discouraging; but in this connection it may be remarked that its cultivation has been in the hands of mere planters, experimenting with a peculiar article without the guide of experience, and dependent wholly upon books for directions both as to culture and cure of the nuts. It is said that the young trees were in some cases too little protected by shade; in others, allowed to be too densely overgrown in the effort to give shade enough. Again, the small harvested crops, for lack of expert manipulation, during what is termed the fermentation or curing of the nuts, have been more or less damaged or wholly spoiled.

The appearance of the, as yet, small trees, which are thrifty and sound; the appearance of the nuts and sufficiency of the yield, would lead to the belief that under proper management there should be no reason why this article might not be largely produced. The culture of this plant was much more methodically introduced into Fiji many years ago, where great expectations were formed of it which have met with but small realization. That country was believed to be better suited to cacao than Samoa, and yet, after a rather general distribution and warm expectations, it fails to figure to an appreciable extent among the exports.

As with every variety introduced, the most extensive experiment and culture was had on one of the German plantations. They are satisfied that they have not succeeded in attaining the technically correct process of curing. I am told by one of the managers that the crop of last year amounted to perhaps 1 ton; but no such encouragement has been met as to induce a further planting, and this interest, in common with most others, may be said to be, for the present at least, at a standstill.

COCOANUTS.

The single exportable staple for which Samoa is eminently adapted, and the one upon which all its business to-day rests, and must for the future be predicated, is the cocoanut (*Cocos nucifera*). It is to Samoa what cotton and corn are to the United States; all that grain, meats, and wool are to the Australasian colonies. The export of the copra—the dried meat of the cocoanut—alone, save with trifling and inappreciable exception, represents the entire agricultural productive capacity of Samoa, and through this source, every dollar that trade and commerce bring into these islands finds its way. Were the cocoanut crop an absolute failure for a single year, the entire volume of export of this Kingdom for that year would not amount to more than $6,000. This illustration will adequately represent the prime importance of this single article to the country and its needs.

The cocoanut, if not indigenous, may be so regarded, to avoid unprofitable discussion, for no tradition reaches back to a time when it did not hold, as now, a conspicuous place. As has been said, it was the cocoanut and cotton—chiefly the former—which induced the large purchase of lands by the German firm and the planting of its extensive plantations. Twenty and thirty years ago, when the oil of the cocoanut began to be more largely employed in the manufacture of soaps, copra commanded in Europe, where it found its only, and still finds its principal, market, very remunerative prices, which in these times of decreased values in everything are looked back to as phenomenal. These high prices stimulated the planting of these thousands of acres of tossing palms which reach on before the eye in unmatched beauty. But the same stimulus which induced this manifestation of enterprise was felt on every tropic seashore. Millions of trees were planted on the measureless shores of tropic Africa, America, and Asia. All the shores of India, of the contiguous countries, of the unnumbered islands that form the archipelagoes of the vast western Pacific were transformed into stately groves in the keen search for large profits.

These groves are but a few years past their early maturity. Every year, with favorable season, they yield an increasing crop. The usual reaction has followed. The same result in these latter times of increased output in everything has been reached, and overproduction is steadily bearing prices downward. In addition, came the introduction of cotton seed as an oil producer. This tells upon Samoa in more than a direct way. No plantations are being laid out. What has been said before in regard to other productions and the great distances of the markets on either side, is applicable to the situation of Samoa with reference to its single staple in redoubled force. Distance, to repeat, is synonymous with freight rates. Other copra-making countries are situated nearer to the markets, A lower freight means a lower cost to the purchaser. Again, a small and semicivilized population, indulging few artificial needs, offers a small market for imported goods. Consequently, ships to larger countries can carry a cargo out, to return with a cargo of copra. Vessels can not, save in exceptional, rare cases, find a charter to Samoa. As a result, the Samoan shipper of copra must pay the high rate of steamers regularly calling or pay such a price for transportation as will justify a sailing vessel to come, perhaps partially in ballast, to carry away a cargo of copra.

In this respect, the German firm enjoys an advantage, as it does in many other things, for, doing for the country a rather large business, and supplying the German men-of-war with coal, it can so adjust its shipments as to offer a vessel a charter both ways, to the great reduction of freight charges. It follows that these advantages of the larger concern tend greatly to continue in a measure the monopoly it once conspicuously enjoyed, to the disadvantage of smaller shippers.

Copra is simply the meat of the cocoanut, dried in the sun, generally by being spread on mats, until the greater part of the watery juice is evaporated. For this purpose the nut is left to thoroughly ripen—that is, until the white flesh, or kernel, which lines the inside of the shell, to the thickness of three-fourths of an inch or more, reaches that degree of hardness found in cocoanuts sold at the fruit stands in the United States. At this state all the clear, palatable water which completely filled the interior in the green stage is absorbed.

When a commercial demand for cocoanut oil first sprang up, and shipments were small, it was customary to ship the pure oil in casks, free of the wood or fibrous residuum. It was then bought by the traders direct as oil from the natives, who secured a separation of the oil by allowing the green copra to stand exposed to the sun in canoes—troughs, as it were—until the heat and decay set the oil free to collect at the bottom, to be afterwards strained.

No oil has been so shipped for a great many years and the one mill set up for extracting the oil mechanically was not a profitable venture. Cooperage could not be had here, and the importation of casks was found too expensive. Then the leakage in a long voyage in wooden packages was found to be very great. For many years the oil cake obtained from cocoanuts met a ready demand from dairymen and small farmers in Europe, as a food for cattle, but latterly it has fallen into disfavor, the opinion obtaining that it is productive of derangement, if not of disease. The decline of this use has to some extent affected the price of copra. It was formerly estimated that the sale of the oil cake paid the cost of the freight on the bulk copra.

Marseilles is the principal manufacturing point of cocoanut oil, but large quantities are shipped to Liverpool, to ports on the Baltic, and to San Francisco. The oil is used to some extent by admixture, as a lubricant, but its chief use is found in the manufacture of common and medium grade soaps. Its tendency to become rancid—an objection which has not been entirely overcome—is a serious hindrance to its employment in many things, and precludes its use in the manufacture of the better grades of soap, for, free of odor as it may be at first, its pungent rancidity is apt to become soon manifest. The odor of copra, especially when stored in bulk or on shipboard, is of the most disagreeable and nauseating character.

The accepted method of latter years is to plant the cocoanuts in rows 40 feet apart, setting the trees 30 feet in the row. The early planters placed the trees 20 feet apart each way, and many years were required after they came into bearing to show that the planting had been done too closely. The nuts were small and not so abundant as they were on trees scattered widely apart. Taught by this observation, the groves were thinned by cutting away a liberal percentage of the trees, to the considerable improvement of the yield. The cocoanut, of all things, loves the sunshine and free circulation of the air. Indeed, to flourish, in perfection, it should stand on the outer verge of the shore, its roots striking into the sea water, its branches or palms ever whipped and tossing in the stiff breeze of the trades. It finds its habitat close to the sea, where the salt-impregnated air can reach it freely and in abundance. Like some other members of the vegetable kingdom—for instance, clover—it seems to take a part of the elements of its growth from the air, but that air must be at the high temperature of the tropics and saturated with the salt moisture of the sea. The cocoanut is so much the creature of the sunshine and the sea, that it clearly manifests its removal inland in a reduced crop of smaller nuts. The lowlands of the beach on all these islands are more or less covered with the groves, while on the mountains and highlands no tree is found. The smaller size of the trees and the poorer yield is plainly to be noticed on lands at an elevation of from 400 to 600 feet, situated at as short a distance as 2½ and 3 miles from the shore. Standing immediately on the beach, the tree inclines outward over the water; growing inland, it points by its leaning ever in the most direct way to the sea.

The nuts ripen along throughout the year, hanging in pendant clusters close in and around the stems of the palm branches, which spread about on all sides and reach upward from the clustered head forming the top of the tree. The nuts hanging lowest ripen first, the young nuts continually appearing above with the growth of the tree, and so the lower branches wither and dry, falling away as the younger branches push out from above. The body of the tree from the ground to the crown at the top, a distance reaching up from 30, to most frequently 60 and even 80 feet, are smooth and bare like mere poles supporting a head of nuts and sweeping branches.

The trees come into bearing, in a small way, at the sixth year on suitable soil and are believed to reach the full limit of production at from 15 to 20 years of age. Many groves known to be 30 and 40 years of age are now bearing in undiminished abundance, and they so continue to do to a great age. Persons who profess to be able to determine the age of trees, by the marks left on the bark where the branches have successively fallen, estimate in this way that many still vigorous trees are 70 and 80 years of age. Natives who are peculiarly intelligent in so many ways, but who appear to be, for reasons not difficult to understand, peculiarly unable to keep account of time, say that the cocoanut tree will live on beyond an hundred years. In all probability, they live to a considerably greater age on the beach lands, when the trunk has escaped serious injury.

Springs, while frequently met with, are not abundant, and for fresh water for all purposes reliance is had on the small streams coming down from the mountains. With few exceptions, the natives are not practical or provident enough to provide tanks for the storage of rain water, as is universal among the whites; indeed, the formation and material of the roofs of native houses would make it very difficult to catch rain water from such roofs. As villages are often at considerable distances from natural supplies of fresh water, and as these in the dry months of May, June, and July often become exhausted, recourse is had to a very barbarous method of supplementing the supply of fresh water. Cocoanut trees nearly always incline at an angle more or less oblique. On what may be termed the upper side of the tree, or that opposite to the direction in which it inclines, large cup-shaped notches, similar to those made in the long-leaved pine for turpentine purposes, are cut. With every shower the water trickles down the body of the tree; being caught in these troughs or notches it serves to fill the cocoanut drinking shells or bottles, the only vessels for holding water they employ;

for, except in a few instances, they are slow to adopt buckets or other containing vessels common in civilized life.

The cocoanut tree is capable of surviving a great deal of injury; in fact, it maintains its vigor despite such injuries as would be ruinous to most trees of the temperate climes. Trees are often seen flourishing in undiminished vigor, although notched half through in the way described in two and even three places. While these unpardonable injuries are sustained without apparent detriment for a long time, they bring about the certain result when the tree becomes old. The surface of the cut becomes decayed, and this, once set in, progresses on into the tree until it can no longer sustain its weight or withstand the high winds of the stormy season. All trees are by no means so injured, but a sufficiently large proportion are thus mutilated in time as to bear manifestly on the total production.

The habit of the cocoanut to reach out over the water seems to be a provision of nature for its propagation and distribution. The nuts, falling into the sea, will float for weeks in the bitterly brackish waters of these tropic seas without injury to the germinating quality. Once thrown upon the warm sands of a beach or tossed by a wave upon the reef above the surface, it soon puts forth its palm from the smaller end, while from the round and larger end the tender roots strike into the soil or decayed coral, as the case may be. Many lagoons which have risen within living memory and which for years remained without sign of vegetation, are now covered with the cocoanut, although hundreds of miles from other islands.

The value of the cocoanut is not confined to the single export product, copra. The tree and its products are devoted to many uses. The wood in the green state is very porous and spongy, having consequently a great degree of resistance to rifle shot. In the native wars in the past it was much employed in the building of defensive works. When thoroughly seasoned, it lasts for a long time under ground and is valuable for all purposes for which posts are employed. The oil enters in many forms into the domestic uses of the natives. It forms the basis of all their liniments and emollients in their simple, but very rational, pharmacopœia. It is used for anointing the body, a practice universally observed and in such a climate by no means so unreasonable as it might appear at the first glance. It has the effect of keeping the skin soft and fine, protecting it from sunburn, which, in these latitudes of a vertical sun, without protection, becomes very severe. It serves as well to repel mosquitoes and other small flying insects. Highly perfumed with the odor of the Moso'oi, it is the general dressing for the hair, in the care of which these people are very particular and cleanly, as they are in nearly all matters.

The nut is one of the standard articles of diet. Breadfruit, taro, bananas, and cocoanuts form the staple articles of food, ranking in importance in the order mentioned. The nuts are eaten in the soft, but somewhat tough, gelatinous state, before they reach the woody condition in which they are familiar to the American people, when they are both palatable and exceedingly nutritious. From what has been said, they are, of course, to be had in this state of ripeness at all seasons.

In this condition, they enter into the preparation of many cooked dishes, the choicest of which is "palusami," a most delicious preparation. The water of the half-ripened nut, at the state of ripeness mentioned, which so completely fills the cavity that it spurts out on the shell being penetrated at the "eye," forms a pleasant and wholesome drink, ample in quantity and curiously cool. The whole shells, from which all the meat is removed by being left first to decay and then by being shaken a long time half filled with coarse sand, forms the universal water bottle; cut in half, they are made into bowls and drinking cups. The fiber, as has been said, furnishes all the sennet or braided twine and rope for all uses. The leaves of the great branches, which dry rapidly, are used for kindling, for torches in fishing, and a small fire made in a bowl of burned clay set in the floor of every house as a fireplace, when regularly fed with these long and combustible leaves, furnishes the light to the household, of a cheery and attractive kind. Again, the small ends of the long branches are tied together in couples, and, the butts being flat and heavy, they are hung across the combs of the roofs of houses and serve admirably to hold the thatch in place against high winds. These branches, by a trick, as it were, are stripped down either side and soon plaited into baskets; treated and plaited much in the same way, they are made into the curtains, or more properly sidings, by which all houses are inclosed and protected.

Were the cocoanut tree, by some destructive blight, eliminated from Samoa at a stroke, all its export would be at an immediate end, and it would be difficult to see how its domestic life could adjust itself to meet the calamity.

It is generally estimated that an acre of land should yield, when the trees have reached the period of full bearing, about half a ton of commercial copra. As in most other agricultural estimates, in which it seems result remains so stubbornly at variance with calculation, this one can not be reconciled with the crop had from any particular plantation. Still, managers and owners adhere to the estimate and furnish a ready reason when the estimate fails of fulfillment. Green copra—fairly dried and liable to much shrinkage—is worth, and has been for some years past, in spite of a constantly declining foreign market, 1¼ cents a pound, when bought from natives. If the estimated production held good, this ought to yield $13.75 per acre; but, again, the estimate usually places the yield at about $12 per acre, possibly no great difference, as such things go. It will be observed, this allows nothing for labor.

Without attempting to reconcile the apparent differences, it is said that a tree is on the average "worth a shilling a year," that is, yields a profit to that amount. Planting in the manner I have mentioned, an acre would carry about forty-eight trees, and if these yielded the estimated shilling each, or 48s. in all, the calculation of $12 per acre profit would be quite well sustained. However the estimates may conflict, however overdrawn they may be, if any—and I am of opinion that, like all similar calculations, they are more encouraging in theory than reliable in practice—they at best do not show a greater profit per acre than with ordinary prices—not those of the past year—may be reasonably anticipated in any of the eastern central States from corn or wheat. As a matter of fact, a very average crop of tobacco, in any of the States growing that staple, would prove more profitable than do the ideal cocoanut groves of the picture islands in the books of travel. True, the trees once planted are producers far beyond the limit of the ordinary lifetime, while the farm crops mentioned are to be laboriously cultivated year after year. On the other hand, many profitless years elapse in waiting for the trees to reach maturity. Even then, in a country where wages are high, because everything else is as well, expense claims a liberal share of the product, for "making copra" is at best a slow and laborious process, although there is but a single planting and no cultivation. Back of all this must be remembered the serious expense of clearing original bush.

Copra is continuously made, as the nuts ripen, from about the middle of April till the middle of October or early part of November—that is, during the dry season, but the making is more active in July, August, and September. Curing could be done, so far as the supply of nuts goes, through the remainder of the year, but the rains varying from frequent to almost constant do not permit of drying.

A boy or man, generally the former, with a piece of sennet, about 18 inches in length, looped on either foot will climb the slender, swaying tree with as much ease and rapidity as if it were a ladder. The notched or corrugated surface of the bark, left where branches have in time grown, from the ground up, catches the bit of sennet between the feet, while the weight of the body pressing downward clamps, as it were, the hollow of the ample feet firmly on either side of the trunk. By this means the tree is ascended by a series of jumps, as it were.

In some of the South Sea islands, where onerous taxes are levied in return for the supposed protection afforded by European nations which have annexed them, a boy is accounted as having become a man, liable to the payment of capitation tax, when he is able to climb a tree.

The climber, with a large knife, cuts away the matured nuts, which cluster close about the butts of the branches. As they fall they are gathered into piles about the base of the tree. On the plantations, they are gathered into panniers slung on donkeys, or into baskets swung on poles, borne by two men—after the style in which the tea boxes were carried with ease over the perpendicular mountains by the two little Chinamen on the old blue china of our grandmothers—to be finally piled into great heaps near the copra shed. The nuts are not husked, the thick outer husk having become hard and brown like wood. They are dexterously split in two by an axe and the hard white flesh is more dexterously cut out with a large knife. Nothing remains but to spread it on mats or boards in the sun. When cured, it is thrown into a heap in the shed, where it remains until sacked, to be laboriously carried, sack by sack, by wading, out to the small boat, which in turn transfers it to the small schooner or cutter lying in deeper water, and from this in turn it is again taken to be stored elsewhere or transferred to the deep-sea vessel for its final voyage.

Copra yields perhaps a greater percentage of oil than any other of the great oil-producing staples, under the modern process, whereby it is mixed with water, heated, and subjected to two pressings, giving as high as 62 and 64 per cent of pure oil.

The cocoanut crop of last year was by far the largest ever known in the islands; for this, like all other crops, has its unaccountable years of great abundance and those of small production as little understood. The yield of last year is all the more remarkable when it is borne in mind that the war of 1893, which ended in the deportation of Mataafa, worked a great and barbarous destruction of trees in the western district of this island, known as Aana. The extent of this increase, despite the unfortunate destruction referred to, is illustrated by the fact that, while the export of copra in 1891 amounted to 4,842 tons, in 1892 to 4,871 tons, and in 1893 to 4,602 tons, it rose last year to 6,214 tons, an increase of 1,612 tons over the year before—an increase of about 33 per cent over the years 1891 and 1892. Yet, under the reduced price of late years, the larger crops fail to bring into the country as much money as did the far smaller crops of former years.

Copra is bought from the natives, who make and sell it in small quantities, selling as it is made almost entirely for trade—canned meats, biscuits, prints, boat lumber, and other articles suited to their few needs. Cash is rarely paid, but part cash is often paid, and sometimes the price is required in money. In the trading stations in other islands and in outlying districts, enormous profits are made. But frequently, the business being small at best, the trader could not subsist or make a profit for his principal, as he is generally an agent, unless such an advance on cost price was made as would be regarded in a town in the United States as prohibitory. In Apia, with its competition of several stores and small dealers, prices are far more reasonable, although they are far from being such as to threaten the dealers with bankruptcy. From the political situation now existing, and which with mere intervals has endured for the greater part of three years, the natives of many of the most productive districts dare not come to do their trading in Apia, and hence are thrown back in buying and selling upon the country trader. Of course, in the end all the goods sold and all the copra made comes from or finds its way to Apia, so that from this cause its business is not diminished. Yet this condition is distressing for such business men as confine their transactions to Apia. With such houses as are sufficiently extensive to have stations in the hostile districts, which they keep supplied from central stores here, the prevailing situation of affairs is very satisfactory, and it is not unlikely that some of them are well satisfied with it and will not fail, in a quiet way, aided by many advantages, to contribute to its continuance.

Copra buyers pay now, as they have done for a few years past, $1.25 to natives and $1.50 to white men, who sometimes make, but generally buy from natives The traders insist that the natives bring the copra too green, or conveniently overturn the boat that the weight may be greater. To protect themselves against such imposition, as they term it, they have their scales set to keep watchful guard over their interests or are provided with a set of false weights—generally the latter—for the natives watch the weighing with keen eyes, sharpened by sad experience. I have heard this practice warmly defended; but it should be said there are some honorable exceptions.

Recently in a trial had in the supreme court between a firm of this place and one of their agents, it was shown that the firm had furnished the agent, along with the scales, a set of correct and a set of false weights. This did not seem to excite surprise or unfavorable comment, while the revelation of the fact was regarded as amusing.

The increase in the American consumption of copra is very gratifying. None was shipped to the United States in 1891 or 1892. In 1893, the value of copra shipped to San Francisco amounted to $1,259; in 1894, to $30,400; and the declared value of that shipped to the same port for the year ended June 30, 1895, was $45,486. Every steamer for the last-named port now takes a shipment. Consignments by this steam transportation are made at a high freight rate. But one sailing vessel has cleared from this port for any American port in a year. By far the greater importations into these islands come from the Australasian colonies, many reasons combining to produce this result. Were there sufficient outward traffic from San Francisco to employ sailing craft, such vessels could afford to carry copra on the return voyage at such a rate as would largely increase the shipments of Samoa's only export to America; for steam rates on so bulky an article over so long a distance approach the prohibitory.

THE GERMAN PLANTATIONS.

It is needless to say that the German firm is the largest single producer as well as shipper in Samoa, or, indeed, in the South Seas. It succeeded to the great business and properties of Godeffroy & Son, extensive Hamburg merchants, when that wealthy house went down in bankruptcy through unfortunate speculation in Westphalia coal mines and other ventures. Extensive as were its interests in Samoa, they were in fact but a side issue to its larger operations. The present corporation, which succeeded the original firm, while probably not succeeding to a greatly profitable business, at least came into one aglow with the most splendid prospects, great in its existing prestige. The old firm was rather the foundation upon which the present one was built; for it was under the latter that its great landed possessions were gathered and its operations so boldly extended.

It now conducts three plantations, all devoted to cocoanuts, save the remnant of such coffee and cotton as survive. Vailele, 2,200 acres, lies to the east of Apia proper, partly within the municipality, sweeping around from the coast on the east well to the south of the town. Vaitele, 2,000 acres, commences about 3 miles from Apia on the west, reaching from the coast around to the southwest, running well up into the foothills of the mountains. The most extensive, Mulifanua, about 4,000 acres, is 26 miles from Apia, at the western extremity of the island, occupying the entire end of the island in fact, opposite to Manono and Savaii. These three plantations entirely cover 8,200 acres all now in full bearing.

A fourth large plantation was many years ago set out on the island of Savaii, but after a long period of waiting was abandoned several years ago, the stunted character of the trees disclosing the fact that the soil was too poor to grow cocoanuts. Analysis discovered it to have been of recent volcanic origin.

The copra crop of Samoa last year amounted to 6,214 tons. The German firm estimate that of this total 2,000 tons were grown on their own plantations, while they shipped much the larger part of the crop grown elsewhere in the group. In the customs return, while the export duty is collected on a valuation of $28 per ton, it is accounted as worth $40 per ton on board. The same valuation is generally agreed upon as correct. Estimated at that price, the German plantations in copra produced a crop worth $80,000, or a yield of about $9.75 per acre, which falls perceptibly short of the "shilling-a-tree" estimate, but probably comes as close to it as estimates should be expected to do in Samoa. An important fact to be borne in mind, however, is that this estimate deals with the gross return on board and makes no allowance for labor and expense, which in so large a crop must necessarily have amounted to a great sum.

I have presented these several estimates and figures as the best obtainable, making no attempt to reconcile them. In my own mind, not forgetting that large spaces of these plantations are not covered by cocoanut trees, I am satisfied if the expense could be ascertained, the per acre profit would fall considerably below $9.75. I doubt seriously if it would amount to as much as $6, or perhaps $5. I believe the estimates of $12 per acre and that of "a shilling a tree," which well accord with each other, are but survivals handed down, and still accepted, from the times of higher prices, without reduction to present values.

The figures of production are instructive in many ways, as they illustrate the marked difference between business management and native methods, and again serve to show how small a proportion of the actual area of the islands is under native culture. From these, it would appear that 8,200 acres produce nearly one-third of all the export of the islands; that, while the number of acres named produce 2,000 tons of copra, all the remainder of the 832,000 acres, the supposed total area of the Kingdom, produce but little over twice as much.

COPRA VALUES AND FREIGHTS.

The latest advices from Liverpool quote copra at $52.50 per ton. This is thought to be too low commercially, and a recovery is expected to $58 or $60 per ton, and these latter figures are thought to fairly represent the present real value. The price has never before reached so low a figure. During 1870–71 the price was about $115; as late as 1880 it was from $75 to $85; since which time, with occasional recoveries, it has continued to decline until it reached the figures stated.

The freight to England is about 52s. ($12.64½) per ton; to San Francisco, to which shipments are beginning to be made, $10 by steam and from $6 to $8 by sail, when the few opportunities occur. From Ceylon and places similarly situated, charters can be had for at least half these rates. In the era of high prices, $25 and $30 per ton carriage was freely paid, and the price paid by traders in Apia was 2½ to 2¾ cents per pound in buying.

But since 1878, seventeen years have elapsed. During all these years, thousands of trees then not planted have come to maturity and are bearing, and thousands of those then in early bearing have greatly increased their yield. As has been said, the crop of last year was the largest in the history of the islands, amounting in all, as stated, to 6,214 tons, and yet an official report made to the United States Government in 1878 gives the export for that year as 6,775 tons, when in fact it could have been not greatly in excess of half that quantity. The same report estimates the cotton crop at 2,300 bales. Such is a sample of the unreliability of the statistics which have so misinformed the world as to this group; upon such unstable foundations rest so many of the roseate theories as to their future.

In the light of the figures given, in that of the fund of information to be had from the tables hereinafter presented, in that of the seventeen years of misrule, stagnation, and disturbance, of promises unredeemed, visions unrealized, it is difficult to believe that in a serious paper such a paragraph as the following could find a place:

> The capacity of the islands for sustaining a very large population is remarkable and will bear comparison with any locality of its area in the known world. This will readily be perceived by an investigation into its resources. There is a grand opportunity here presented for honest immigration, directed and supported by capital, which is absolutely necessary to gather new materials and develop new industries. The bonanza is vegetable, not mineral. The mere adventurer, filibusterer, or purposeless man would only swell the long list of beach combers now frittering away an existence. In other words, no individual should go to Samoa without an aim, a conception of the situation, and a purse supplied to meet possible contingencies.
>
> In the not improbable event of the advent of planters opening up the country in sugar, cotton, cocoanut, and coffee plantations, there would be good opportunities for overseers, mechanics, and manufacturers' employees .

The advent of the prospective planters has not as yet been realized; the "good opportunities for overseers, mechanics, and manufacturers' employees" have in consequence not followed. But the indisputable advantage of "a purse supplied to meet the possible contingencies" is as clearly beyond question to-day in Samoa—and even in other countries—as it was when that discovery dawned upon a philosophic economist half a lifetime ago.

INSECTS.

Insects, especially mosquitoes, are very prevalent, and the latter amount to almost a plague, the sting being very irritating. In addition, there are cockroaches, spiders (both of large size), centipedes, and scorpions. Red and white ants are so abundant as to constitute a pest. None of these can be said to be deadly. Persons are frequently bitten by centipedes, but I have never heard of a fatal result from any bite or sting of any kind. From accounts, I much doubt if the bite of the centipede is more serious than the sting of the bumblebee. Cockroaches are very destructive to bookbinding and articles of light leather. The country is singularly free of house flies. Honey bees have been largely introduced, but have not fulfilled reasonable expectations. They soon lose their habits of industry, the uniformity of the climate being such that they find no need to provide against a season of scarcity.

FISH AND GAME.

The varieties of fish are very limited and the quality poor. As a matter of fact, if there is not a scarcity, there is certainly no abundance. There are no fresh-water fish. The best of the sea fish is one called a mullet, very similar to the white salmon of the great lakes, but slenderer and with a more delicate head. It is rarely seen over 18 inches in length; but all others, which are in size such as are termed pan fish, are soft and lack flavor. Shrimps are plentiful in the streams.

There is, in effect, no game. Rarely a duck is shot on one of the small lakes in the mountains of the interior. The only game, in fact, is a wild pigeon to be found in the thick bush of the interior, but it is scarcely in such abundance as to be spoken of as game at all. It is found in such inaccessible places in the gloom of the lofty forest that it is safe from any other than native hunters, who manage to kill them in small numbers for sale.

REPTILES.

There are but few reptiles, and none of them are poisonous. They are said never to exceed 6 feet in length, and are much more plentiful on Savaii than on any of the islands, but some are seen on Upolu. They can not be plentiful, from all accounts, and I have never seen one in the entire term of my residence. There are persons whom I should regard as reliable, who stoutly maintain the existence in these islands of a very large serpent, which gives out a noise somewhat like the crowing of a cock—a serpent which I have heard spoken of as a crowing snake. Other persons of long residence speak of it as a myth. A party of laborers at work in a clearing near this town, not long since, were scattered by the appearance of a large serpent, which swung itself from the branch of one tree to that of another. The men united in the assertion that it made a crowing sound, was of enormous size, and moved with great rapidity. I vouch for none of these assertions, but give them for what they are worth; but the existence of the crowing snake is by some held to as firmly in Samoa as it is by others abroad believed to belong in these islands.

CATTLE, SHEEP, AND HOGS.

Cattle, sheep, and hogs are imported from New Zealand, as that country, being largely a grazing one, offers a cheap market, and from its proximity possesses the advantage in point of freight. They are brought chiefly in the island steamers I have referred to, in frequent small lots for early slaughter. The numbers thus imported are surprisingly large for so small a place, but this is accounted for by the considerable supplies of fresh meat required by the men-of-war. There are generally from one to three war ships in this harbor, and these consume more fresh meat than the resident population.

Natives do not patronize the butchers, but use exclusively canned meats in considerable quantities, being very fond of it, buying as liberally as their means will permit. Canned meats, however, hold a very inferior place in their esteem to canned salmon, of which they are very fond.

Hogs are very abundant in the country and every native village abounds with them. They are not killed to supply a regular article of diet, but are reserved for slaughter, one at a time, or in large numbers when guests appear, or to be contributed, baked whole in the native oven of heated stones, to set forth the many and abundant feasts which Samoan custom demands and which make up so great a part of Samoan life.

Native hogs fatten rapidly and thrive on cocoanuts, upon which they are fed, exclusively so when penned. The flesh is unpalatable, even unbearable, being of such strong and rancid taste and smell, as a result of the feeding. As a consequence, while domestic hogs of good breed are abundant, all butchering stock is imported.

There are no sheep save those imported for slaughter. The climate is too warm and damp. Cattle are owned to some extent by natives for milking purposes. They all appear of good type, thrive and fatten rapidly on the abundant plants and tender branches of the bush, which amply supplements the grass. Yet, it is found that to afford a supply of fresh meat to so small a community, constant importations are necessary. I am at a loss to account for the scarcity of cattle in a land of abundant grazing, unless it be that from climatic influences breeding is restricted. The liability of calves to disease and death in the wet season, to which I have adverted, doubtless also exerts an influence in restricting production; at all events, there is a cause lying behind this which prevents Samoa from becoming a breeding country. Cattle were introduced half a century ago and if the conditions were favorable the stock of the islands should now certainly be sufficient for mere domestic consumption. As far back as the early eigthties one concern here owned as many as 1,600 head of cattle, a number far more than sufficient to have stocked the whole country were it adapted to cattle breeding.

AMERICAN VS. AUSTRALIAN CANNED MEATS.

In this connection, it may not be out of place to say that the canned meats of the Australasian colonies are inferior to the American article, and yet not only in Samoa, but in all the islands of the South Pacific, find a great market to the substantial exclusion of American goods. Freight rates, of course, cut a considerable figure in this, but do not appear to be a satisfactory explanation. No doubt New Zealand can grow meat more cheaply than can the United States, and then comes in the advantage of water carriage. American tinned meats in addition have to bear the high freight of transcontinental railway rates from the packing centers to San Francisco, but with all this dealers say the difference is not considerable. As it is, however, a hundred or perhaps three hundred cans of New Zealand beef are sold to one of American brand.

The colonial article is invariably put up in round, flat cans, while the American is somewhat square in shape. A native will buy the round tin when he would not take half a dozen of the square ones for the same price. It is a round tin or none.

Of course, this is all a matter of prejudice. He is prejudiced against the square can, for what reason he does not know, but he is prejudiced against it nevertheless, and this small, unreasoning bias of the individual swells into an enormous trade, to the loss of a market to American manufacturers.

American meats once held all these markets; now they are excluded. They can win them back again, first, by the necessary effort to largely extend, and then packing the meats in the round tin to meet a mere notion.

Our British competitors, who are never at a loss to misrepresent everything American, are, in some way, behind all this. They can be relied upon to find means to keep alive the prejudice. It is said that years ago, the story was started—as a mere joke, of course, it is claimed—that cheap American canned meats were composed in part of human flesh, secured in the process of preparing the bones of Chinese for shipment to the Celestial Empire. This story undoubtedly was circulated broadly in Samoa and laid the foundation of a prejudice. That prejudice grew, still exists, and has an important bearing on business, dictating the purchases of consumers who are ignorant of its origin or foundation.

STEAM SERVICE—TONNAGE AND DISTANCES.

The steam service of Apia is both excellent and frequent for so small a port. This is due to the fact that this, like Honolulu, is a port of call for the steamships of the Oceanic Line plying between San Francisco and Sydney. All the ships of this line also touch at Auckland, New Zealand. The service of the Oceanic Line, aside from one vessel employed wholly between San Francisco and Honolulu, is performed by two American steamers and one British, leased from the Union Steamship Company, of New Zealand. The schedule time, rarely varied from, and then only in the rainy season, is twenty-five days between the extreme points—San Francisco and Sydney—

lying 7,224 miles apart. By this line, Apia is fifteen days distant from the former city, ten from the last named, and five from Auckland. One steamer calls every twenty-eight days, inward and outward, from San Francisco, the steamer going north following one week after that passing south. In addition, two steamers of the Union Steamship Company, plying exclusively in the island trade, arrive every two weeks. These latter alternate in their trips, that sailing from Sydney, after touching at Apia, Tonga, and Fiji, returning to Auckland, while the steamer sailing from the port last named, after touching at the same island groups, terminates her circuit at Sydney.

The comparative frequency of this service, the shorter distance of these colonial cities from Samoa than is San Francisco, consequently a considerably less freight rate, are the chief influences combining to deliver over the business of Samoa, in common with that of the other islands mentioned, as well as of a great many others in the southern Pacific, not here named, to the two chief distributing points of the Australasian colonies, consequently to English control. This amounts well-nigh to the exclusion of American trade.

One of the annexed tables presents in compendious form the statistics of the shipping of this port, giving the number of vessels, the class to which they belong, tonnage, and nationality. It should be borne in mind that the favorable presentation made by American shipping is due to the comparative frequency of the calls of the two vessels of the Oceanic Company. Again, the gross tonnage, it should be remarked, would mislead, if one lost sight of the fact that, although the steamer of respectable size is accounted for her full tonnage, she may frequently bring in or take out a small quantity of freight. Apia is a call, not a home, port.

From the table, it will be seen that a total of 164 vessels entered and cleared at this port in 1894, 84 entering and 80 clearing. Of the 84 which entered, 44 were steam and 40 sailing vessels; of the 80 which cleared, 42 were steam and 38 sailing vessels. The total inward tonnage was 75,484 tons, while the outward amounted to 74,365 tons.

The complete dependence of Samoa on the regular lines for steam service is illustrated by the fact that all the steam tonnage belonged to the regular lines.

The preponderance of the steam tonnage in making up the totals is shown, that of the inward tonnage—75,484 tons—all was steam, except 6,912 tons sailing; of the 74,365 outward, all was steam, save 9,260 tons sailing.

The American tonnage exceeded that of any other nationality, leading the British by 606 tons. This advantage was due to the chance circumstances that, in the working of the time-tables, the American steamers happened to count a trip or two more within the year. The American tonnage for 1894 increased over that of the year before to the extent of 435 tons only, while the British tonnage showed an increase for the last year, as compared with the preceding, of 6,572 tons.

The German tonnage declined from 9,432 tons in 1893 to 509 tons last year, a decrease of 8,923 tons—a sharp falling off. This may be partially explained by the fact that the export, as stated, being one that can ill afford to pay any other than a low rate, the shippers of copra, both the two most extensive being German, have been compelled to take advantage of the low freights offered by Danish and Norwegian vessels.

Ten American sailing vessels entered in the past year, as against four the previous year, a very flattering increase, but, unfortunately, one not likely to be maintained, for, while nearly six months of the present year have at this writing passed away, no American sailing ship of any class has come into this harbor. In the statistics of tonnage, the interisland craft plying between the islands of this group are not taken into account.

Pagopago lies 70 miles to the east of Apia, in the island of Tutuila. Apia is distant from San Francisco 4,260 miles; from Levuka, Fiji, about 600 miles; from Auckland, N. Z., 1,500 miles; Sydney, 2,350 miles; Melbourne, 2,800 miles; Panama, 5,600 miles. These distances tell severely against Samoa in its competition with other countries of like production.

Nationality, number, and tonnage of vessels entered and cleared at the port of Apia, Samoa, during the year 1894.

Nationality.	Inward.						Outward.					
	Steam.		Sailing.		Total.		Steam.		Sailing.		Total.	
	No.	Tons.	No	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
British	27	32,909	3	588	30	33,497	25	32,142	3	588	28	32,730
German	......	....	14	509	14	509	......	....	13	456	13	456
United States	17	32,963	10	1,140	27	34,103	17	32,963	9	811	26	33,774
Danish	......	....	2	1,017	2	1,017	......	....	1	417	1	417
Norwegian and Swedish	......	....	11	6,358	11	6,358	......	....	11	6,614	11	6,614
French	.....	....	......	....	......	....	......	....	1	374	1	374
Total	44	65,872	40	9,612	84	75,484	42	65,105	38	9,260	80	74,365

LAND TITLES.

The titles to lands in Samoa, which in the past were so vague and which brought so much of the misfortune this little country has endured, may be considered as practically settled, although some hundreds of claims are yet pending, on appeal, in the supreme court, and several hundred have been settled by compromise and otherwise in the same court since the final adjournment of the land commission.

That commission, consisting of a member appointed by each of the treaty powers (Germany, the United Kingdom, and the United States), was in existence for nearly four years, finally expiring on the 1st of January last. During its existence the natives had the benefit of the assistance of an officer, known as the natives' advocate, whose duty it was to resist the claims of all foreigners and protect the rights of the native Samoans.

Under the requirements, all foreign claimants were required to present their claims and title papers for investigation, the burden being placed upon them to establish title. The duties of the natives' attorney were performed by two gentlemen, in succession, both able to speak the Samoan language, who appear to have faithfully discharged their functions, but it is to be regretted that neither of them was a lawyer, while in the larger number of claims they were opposed by gentlemen in active practice of the law.

The entire expenses of the commission, including salaries of the members—$300 each per month—and all incidental expenses, except the salary of the natives' attorney, were borne by the three treaty powers in equal proportion, amounting in all to a sum which I am without the requisite data to state, but which must have amounted to something like $100,000.

During the existence of the land commission, the United States was represented by three different gentlemen, two retiring by resignation; Germany was, in succession, represented by two gentlemen, while the English member served throughout the whole term of the commission.

According to the final report of the commission, a total of 3,942 claims were filed before it, presenting claim to 1,691,893 acres—several hundred thousand acres in excess of the entire area of the whole group. Of these, 2,311 were confirmed under some one of the several provisions of the Berlin treaty governing the matter of land titles, representing 85,677 acres; while 311 claims to 153,460 acres were confirmed to the extent of a part of the lands claimed.

Claims numbering 324 to 14,991 acres were withdrawn by claimants from the commission, after having been presented, and 977 claims to 1,432,760 acres were rejected in toto.

Germans claimed in all 134,419 acres; Americans, 302,746 acres; French, 2,307 acres; other nationalities, in all, 2,151 acres, while British subjects presented claim to 1,250,270 acres. It is estimated that the claims confirmed cover an area of 135,300 acres, but this is little to be relied upon.

Germans secured confirmation to an estimated 56 per cent of their entire claims, Americans to about 7 per cent, and the English to about 3 per cent. The great acreage claimed by British subjects is made up in far the greater part by the claims of an enterprising Scotchman—one Cornwall—lately deceased, who presented claims to lands in the island of Savaii—the largest of the group—in excess of the entire acreage of the island. It was the rejection of much the greater part, if not all, of his claims, that reduces the British percentage to the low figure given. In a certain sense, this small ratio of recovery is misleading, for very many of his claims were in fact not entitled to consideration, although it was his privilege to file them. In this sense, as a matter of fact, the percentage of British confirmations was much greater than 3 per cent—greater, indeed, than that of the Americans, who really take place at the bottom of the list, while the Germans hold the first place.

The great preponderance of American claims were presented by a California corporation, called the Central Polynesian Land Company. Its lands were bought many years ago by agents, who, as they had nothing at stake, if the titles should in time prove worthless, were perhaps no more scrupulous than others.

While no ascertained data can be had for comparison, it is likely that this American company, as I have already said, paid as much actual value for their lands, but a remnant of which they received, as did the Germans for the domain they hold in possession. Still, as their lands were in great part held on agreements to purchase—that is, on options—which the treaty directed to be treated as void, it was compulsory upon the commission so to hold them.

POPULATION.

The population of these islands was never known with certainty, and is now as far from being ascertained as ever. All data upon this subject has been approximate, based upon missionary estimates. There never was an official census. The last general effort to ascertain the population of the entire group was made some ten years ago and resulted in fixing the total at 35,000 in round numbers. The general belief among the missionaries, who have the best opportunities for estimates, is that the population has slowly declined. An epidemic of measles in 1893 was believed, from the inability of the natives to properly treat it, as it was an unknown disease to them, to have caused the death of fully 1,000 persons of all ages. This, taken into account in connection with the apparent decline noticed in particular villages and districts, leads one having the best opportunities for information to fix the present population at 32,000.

As opposed to this and coming somewhat as a surprise, a recent fairly complete census made by missionaries has shown an actual increase in the island of Tutuila. This island has, perhaps from its isolation, not been subject to the same extent to the influences affecting the other islands; and yet there has been nothing apparent there likely to produce difference in this regard. These facts, taken in connection, lead to the conclusion that there has really been but little change in the matter of total population in the past decade.

RELIGION.

There is practically no such thing as a heathen in the group; in fact, not one is known. All are Christians after a fashion; that is, so far as the profession and observance of the outward forms of Christianity are concerned. In this general sense, it is not too much to say that they are more universally Christians than are the English or Americans, for all profess its doctrines. The Sabbath day is rigorously observed, attendance at church is general, while morning and evening prayers and hymns are omitted in no household.

A gentle, tractable people, naturally inclined to be devotional, with many traditions bearing striking similarity to the Mosaic account of creation, possessed of a language made up of and conducing to the employment of figurative expressions, they readily embraced Christianity, and its introduction was more a work of patience than difficulty.

Naturally, little sensible of the serious appreciation of responsibility, light, frivolous, under a system not calculated to the development of individual character, difficult to impress and with but slight capacity to retain lasting impression, the obligations of religion rest but lightly upon them.

Polygamy has disappeared, but it is replaced by a system under which marriages are so easily and frequently contracted and abandoned that it dispenses with an excuse for polygamy. Dishonesty, while but a petty vice, petty perhaps because their temptations and their needs are small, is as prevalent as at any time within the period of knowledge; while regard for the truth, when opposed to interest or inclination, is not to be expected.

Missions are maintained and indefatigably prosecuted by the London Missionary Society, the Wesleyan Mission, the Roman Catholic Church, and, in a small way, by the Mormon Church. These churches all maintain good schools, those of the London Mission and the Marists of the Catholic Church being especially well conducted and prosperous.

At Malua, on the coast of Upolu, 12 miles to the west of Apia, the London Mission maintains a theological seminary for the education of native preachers—or missionaries, as all preachers and priests alike are termed in the South Seas—with above two hundred students. The semicentennial of this college was celebrated with impressive ceremonies last autumn. In Apia, schools are maintained by the missions for both males and females, and, indeed, schools are established at several places throughout the group.

It is estimated that the Catholic Church has 7,000 native communicants; all the remaining four-fifths of the population are divided in membership between the London and the Wesleyan missions, the former having much the larger following, while the number of converts to the Mormon faith is small and apparently shows little increase.

Foreign missionaries are still in control of the direction of the church and educational interests, but especially through the facilities of the Malua Seminary, the London mission is able to provide natives in response to all demands for ministers and teachers.

It may be estimated that fully one-half of all persons over 20 years of age can read and write; with few exceptions, all of both sexes under that age are educated to that extent. Beyond this, and the addition of elementary arithmetic, education does not extend, save to those in the mission schools designed for the ministry.

The Samoans seem, as would appear from what has been said, keenly alive to the advantages of education. Every village without exception has its resident pastor or "faife'au." He is at once minister and teacher, teaching regularly the village school throughout the school year, besides attending to his ministerial duties. In like manner, each village is provided with its church—serving the purpose of schoolhouse as well—built of concrete composed of coral lime, in contradistinction to the wooden, beehive-shaped houses which make up the remainder of the village.

These native pastors are paid by a contribution levied upon the whole village, varying from $100 to $150 per annum, in addition to which he has the product of his own planting of taro, bananas, etc., and a share in the other village supplies.

THE MUNICIPALITY OF APIA.

The municipality of Apia, from its liberal territorial extent, is rather a district set apart for foreign residence and government than a mere town site. Apia proper consists of a succession of large and small residences, stores, and warehouses, irregularly distributed upon a winding lane which encircles the bay of that name, following the sinuosity of the shore line. The bay opens to the north. This roadway reaches from Vaiala, on the east, to the furthermost point of Mulinuu, on the west—that "finger of land extending out into the sea" of Stevenson—probably a distance of 3 miles. Well on toward the end of this slender peninsula, with its curved lines of cocoanut palms, is situated the modest little frame dwelling of King Malietoa, the only fruit of the wrecks of the American men-of-war lost in the great hurricane of 1889, presented by the United States to Samoa. Here also is situated the scattered cluster of native huts making up the village of Mulinuu. This is the seat of Government, where is assembled the members of the "Faipule," or native congress, charged with the serious duty of governing Samoa, in which they, in fact, exercise an imaginary or rather pantomimic part, little fitted even for that. Here they lounge and live and sleep and unendingly—if with austere gravity, much drinking of ava, and an almost ceaseless flow of oratory struggling for ascendency against the resounding beach and the muffled roar of the outlying reef—legislate day after day and month after month. Absenteeism finds no place on the calendar of parliamentary Samoa. A few blows of a ponderous club upon a resonant wooden trough, hollowed from a log—a Samoan drum—sets the members, arrayed in flowing lavalavas, scrambling up from the inviting mats, out of the little thatched houses, to solemnly assemble at a moment, to discuss in echoing prolixity some petty village regulation or weighty measure of governmental or international moment. Mulinuu, the now citadel of government, is not one of the ancient seats of Samoan authority, but a selection of Steinberger.

The main beach road is tapped by a few other roads running back into the country. Upon these side roads are scattered at intervals dwelling houses, native and foreign, but nearly the entire number of the houses of foreigners and all the business houses front upon the beach road.

All the houses, about two hundred and twenty-five in number, are built of wood and many are two stories in height. On the side streets, on the outer extremities of the main road, indeed directly upon it, and thickly situated to the rear of the stores and houses which front upon it, are the houses of the natives—the typical Samoan house. The effect upon the whole, with the frequent interspersion of cocoanut palms, high in air over all, the white line of the surf tossing out to the front, the dark, wooded mountains—partly hidden by passing clouds, like floating scarfs drifting in the wind—as a background, is to present an attractive scene, at once picturesque and typical of the South Seas.

The last official census, taken in 1893, gave a total population of 826. For some inexplicable reason, this enumeration intended to determine the actual white and half-caste population, yet includes as well children and all Samoans and others employed in or making part of the households of foreigners (white men). The actual white adult population was 255. This was distributed as follows: British, 113; Germans, 99; Americans, 16; the remainder among other nationalities. Under the system of enumeration first mentioned, the British numbered 247, Germans 151, and Americans 71. There are 179 qualified voters.

I feel satisfied the actual white population has since, by death and removal, declined somewhat. In all Samoa, outside of Apia, there is no means by reference to data either recent or of long standing to determine the white population. To arrive at this, I have made inquiries of persons well acquainted with the islands, and the highest estimate I have had gives the number of half-castes and white as 170. It is, I believe, certain that the entire white adult male population of the Kingdom does not amount to over 400. In these estimates, supported by so little trustworthy data, I prefer to err on the side of liberality, and, accordingly, in this report assume the number of persons of the class mentioned to amount to 500, but this is greatly in excess of the actual number.

The census quoted made no enumeration of Samoans not residing in the houses of foreigners, yet living within the municipality. The total urban population is, therefore, but approximate, estimated to be between 1,800 and 2,000.

There are 27 stores, large and small; 2 weekly newspapers, 3 lawyers, 1 physician, 3 blacksmith shops, 6 bakeries, 2 photographers, 1 drug store, 2 hotels, and 8 saloons.

On the basis of the white population cited (Samoans are prohibited from buying liquor), there are nearly one-third as many saloons as there are stores, and it seems to require one saloon to assuage the thirst of about every thirty-two adult males of the white population, yet it must be remembered that Apia is a seaport, much frequented by men-of-war.

There are two churches—a Catholic for whites and natives alike and a Protestant church exclusively for whites, besides some small native Protestant churches.

There is no public free school. Although there is but one physician, who is port and municipal health officer as well, a very large proportion of the medical practice of the town and vicinity is gratuitously performed by the surgeons of the men-of-war lying in port during the greater part of the year.

Of the stores, five are rather extensive jobbing and retail houses, while of the remainder several are so small as to scarcely merit enumeration.

The cost of living is high, as might be expected where, in effect, all the staple articles of food are imported. In addition to this cause, the volume of goods sold is not great at best, with sales divided among many dealers who, to maintain themselves on a limited business, must make a large percentage on the amount sold. The volume of imports being necessarily staple, a competition in price necessarily exists; therefore, the cost of staple articles is not so great as in lines running on to the innumerable class of articles outside of prime necessaries. A uniform price for anything is recognized or arrived at in but a few commodities. Prices vary with the chance demand and the extent of the supply on hand. It is therefore impossible to give a reliable list of prices for the articles that enter chiefly into consumption, save in a few instances. Keg beef, tinned meats, coal oil, and one or two other articles have a fixed price. Most other merchandise is apt to be held by the seller at a price fixed by himself, on a knowledge of the greater or less supply believed to be on hand in the town. Subject to these conditions, the following prices are believed to be nearly correct: Flour, $3 to $4 per cwt.; bread, 12½ cents per loaf; ham, New Zealand, 25 to 30 cents; American, somewhat less, but will not keep so well in this climate; salt keg beef, 6 cents; fresh beef, 18 cents; potatoes, 3 to 4 cents—from $1.80 to $2.40 per bushel; tinned biscuit, 3½ cents; granulated sugar, 10 to 12 cents; coal oil, 30 cents a gallon.

Wages are correspondingly high. Carpenters (foreign) receive from $3 to $5 per day; painters, $2.50 to $3; white laborers, $2 to $2.50 per day; native laborers, $1; and native rough carpenters, $1 to $1.50. As these prices, in a small community, would of themselves indicate, employment is unsteady and a price must be had for the days of labor to equalize those of enforced idleness.

Employment in a community of little prosperity or activity is found, especially by the new arrival, with great difficulty, and I have seen many cases of great distress where persons, lured by flattering accounts, have come to these islands to seek situations without the precaution of preliminary inquiry. Such persons naturally bring little means, and this is soon exhausted. Once here, they are forced to make the best of it, for distances are great and passage rates greatly higher than on the Atlantic seaboard.

At least in the existing situation, and in the future, as far as I am able to foresee, there is nothing whatever to encourage the mechanic, laborer, or other immigrant to seek a home in these islands.

PRISONS.

There is in the Kingdom no penal institution in the nature of a penitentiary other than a common jail. The prisoners, during the period of confinement, are employed in repairing and weeding the roadways of the town. They are scantily supplied with food, and are in the main supported by supplies furnished by relatives.

There are at present sixteen prisoners, fifteen of whom are natives and one a Chinaman. The distinction between felony and misdemeanor is somewhat uncertain here, but six of these persons may be said to have been found guilty of felonies and nine of misdemeanors. There is no female in prison.

AMERICAN CITIZENS AND THEIR INTERESTS.

As has been stated, the registered British subjects exceed in number those of any other nationality. This large number is for the greater part half-caste, natives of Samoa, the children of British subjects. The German and American registry is made up in part, but in less proportion. So the American holdings of lands fall behind those of the other two.

The American interest is made up in much the greater part by the lands of the Polynesian Land Company; that of the British, in probably a like proportion, by that of the estate of Cornwall, before mentioned.

Aside from the lands of the Polynesian Land Company, it is doubtful if the entire united ownership of lands by Americans will aggregate 1,000 acres.

Two American houses do the largest business done in the island next after the German firm, and the most enterprising business men in Samoa are Americans. The wealthiest man in the islands, by common repute, is an American, a native of New Jersey; but that which is regarded as great wealth here would be considered a modest provision in any small American city.

In conflict with the figures quoted from the municipal census, the whole number of American citizens registered in this consulate-general as claiming the protection of the United States is 32. In addition, there are 3 native-born Americans and 1 naturalized citizen who have not registered. Of the 32 mentioned, 12 are American born, 9 are naturalized citizens of foreign birth, and 11 are Samoan half-castes of American fathers. Of those so registered, as above stated, 19 are married; but no American citizen is married to a white woman, all having found Samoan wives.

One hundred and nineteen persons are on the registry as children of American fathers. Some of these were born as far back as 1860, but most of them since 1880. Doubtless some of these are themselves now fathers of families, and it is probable the greater part of them are dead. There is now no means of determining the number of these living or the number of those living still remaining in the Kingdom.

COMMERCE IN 1894.

The entire import of Samoa for 1894 amounted to $451,389; its entire export, to $316,473. The excess of import over export was $134,916.

Of this import, $68,252 came from the United States, $82,400 from Germany, and $274,955 from the British colonies, while $7,268 came from England.

These figures are, to some extent, misleading; for instance, a part of the import from the Australian colonies consisted of goods which came from the United States, such as coal oil, fencing wire, and other articles. All the coal oil comes from the United States, going from New York to Sydney in sailing vessels, where it is distributed always in 5-gallon tins, in which form it is sold all over the Pacific. A large part of the import from these colonies consists of coal imported by the German firm for German war vessels.

The following table gives the general volume of imports and their proportion and distribution:

Imports into Samoa in 1894.

Character of merchandise.	United States.	Germany.	Australian colonies.	Great Britain.	Other countries.	Total.
Malt liquors, spirits, tobacco, cigars, and arms*	$3,630	$24,256	$17,839	$1,218	$733	$47,676
All other merchandise	64,622	58,144	257,116	6,030	5,496	391,428
Copra in bond					12,285	12,285
Total	68,252	82,400	274,955	7,268	18,514	451,389

*Of the $47,676, value of liquors of all kinds, cigars, tobacco, and arms imported, the same goods to the extent of $9,383 were exported in bond, leaving the value of articles under this head actually consumed in Samoa, $37,199.

From the preceding table, it will be seen that liquors, cigars, tobacco, and arms constituted $47,676 of the value of the imports. The remainder of the import, other than copra in bond, amounted to $391,428, covering all other merchandise, was imported by each nationality as follows: Americans, $61,117; Germans, $189,295; British, $85,616; other nationalities, $55,399.

All merchandise, other than liquor, cigars, tobacco, arms, and gunpowder, subject to specific duties, is liable to an import duty of 2 per cent ad valorem. All duties are fixed by the treaty: Malt liquor, 50 cents per dozen quarts; spirits, $2.50; wine, $1; sparkling wine, $1.50 per gallon; tobacco, 50 cents; cigars, $1 per pound; guns, $4 each; powder, 25 cents per pound.

Leaving out of view all general merchandise not subject to specific duties, the following table presents the quantities of each of the articles imported subject to such specific duties. It presents, as well, the proportions of the import made by citizens of the several nationalities.

Of the malt liquor, more than three-fourths was imported by Germans, the Americans following next; and something in excess of 1 gallon of spirits was imported to every 4 gallons of malt liquor. Counting the white population at 500—an overliberal count—the import of 7,260 pounds of tobacco would allow about 14½ pounds to each individual.

Natives are not allowed to buy guns, so for the same white population an import of 204 sporting guns was made in one year, in addition to some hundreds in the few preceding years. Of these 204, one was imported by an American, all the rest by Germans.

A gun can only be imported by special license from the president. This large importation of guns into a country where there is no game is in contrast with the profession of the president of his earnest wish to arrest the introduction of arms.

The following table shows the quantities of the several articles named, imported into Samoa, subject to specific duties under the Berlin treaty, Schedule A, 1 to 8, and the quantities imported by each of the several nationalities named for 1894:

Articles.		Americans.	Germans.	British.	Other nationalities.	Total.
Malt liquors	gallons	2,396	15,960	588	1,516	20,460
Spirits	do	484	2,719	711	492	4,406
Still wine	do	214	1,646	286	472	2,618
Sparkling wine	do	20	170	4	18	212
Tobacco	pounds	250	4,816	1,460	734	7,260
Cigars	do	146	757	32	376	1,311
Sporting arms	number	1	203	....	....	204
Powder	pounds	144	50	....	50	244

From the next table it will be seen that of the whole value of articles paying specific duties, the Americans were the next largest importers after the Germans, leading the British considerably. Of the entire import of articles so classed ($47,676), beer amounted to $25,396 and wines and liquors of all kinds to $16,746. The German import was nearly three times that of the American and British combined, and of this entire import they brought in articles to the value of $34,291.

The following table shows the value of articles of merchandise subject to specific duties under the Berlin treaty, Schedule A, 1 to 8, imported into Samoa in 1894, excluding all that might be classed as general merchandise, other than wines, liquors, sporting arms, and gunpowder. The table also shows the nationality of the importers and the values (fractions of a dollar not reckoned) imported by each nationality:

Articles.	Imported by—				Total.
	Americans.	Germans.	British.	Other nationalities.	
Malt liquors	$2,995	$19,771	$735	$1,895	$25,396
Spirits	1,089	6,118	1,600	1,007	9,814
Still wine	428	3,292	572	944	5,236
Sparkling wine	160	1,360	32	144	1,696
Tobacco	63	1,208	365	184	1,820
Cigars	292	1,512	64	752	2,620
Sporting arms	5	1,015	....	....	1,020
Gunpowder	44	15	....	15	74
Total	5,076	34,291	3,368	4,941	47,676

An examination of the following table exhibits the entire customs revenue of the Kingdom derived from imports to be $23,069.99. Of this, liquors, tobacco, etc., under the specific schedule, yielded $15,902.06. The duty on the remaining import, including every other imported commodity, yielded but $7,167.93. That is, the specific schedule of $47,676 yielded something in excess of double the revenue derived from $391,427 worth of general merchandise under ad valorem. Again, while 20,460 gallons of malt liquor paid but $3,554.13 duty, 4,406 gallons of spirits paid revenue to the amount of $6,421.79. Of the total import revenue, Germans paid $14,913.20, Americans $2,383.66, and British $2,722.20.

Articles.	Paid by—				Total.
	Americans.	Germans.	British.	Other nationalities.	
Malt liquor	$369.00	$2,802.99	$143.41	$238.73	$3,554.13
Spirits	406.72	4,443.01	905.43	666.63	6,421.79
Still wine	71.63	1,279.27	147.00	307.23	1,805.13
Sparkling wine		252.19	24.00	18.00	294.19
Tobacco	154.00	1,129.91	146.50	278.75	1,709.16
Cigars	115.50	454.67	3.50	285.24	858.91
Sporting arms	36.00	800.00		48.00	884.00
Gunpowder	18.50	343.75		12.50	374.75
Total	1,171.35	11,505.79	1,369.84	1,855.08	15,902.06
Paid on all other merchandise	1,212.31	3,407.41	1,352.36	1,195.85	7,167.93
Grand total	2,383.66	14,913.20	2,722.20	3,050.93	23,069.99

The next table presents a comparison of the quantities of each of the articles subject to specific duties imported in the year 1894, as measured by each of the two preceding years. Every article shows an increase except tobacco and gunpowder, which fall off greatly. The import of beer increased from 8,197 gallons in 1892 and 12,910 gallons in 1893 to 20,460 gallons in 1894; spirits increased from 1,824 gallons in 1892 and 3,421 gallons in 1893 to 4,406 gallons in 1894.

So, to repeat, the import of sporting guns, which the authorities are so earnest to repress, grew from 79 in 1892 to 204 in 1894, a curiously suggestive increase for a mere handful of whites in a country bare of game. From these figures it is evident that every white man is possessed of something more than a gun each.

Quantities of the principal dutiable articles imported during the years 1892, 1893, and 1894.

Articles.	1892.	1893.	1894.
Malt liquors .... gallons..	8,197	12,910	20,460
Spirits .... do......	1,824	3,421	4,406
Still wine .... do......	1,297	1,840	2,618
Sparkling wine .... do.....	88	132	212
Tobacco .... pounds...	1,902	20,674	7,260
Cigars .... do......	566	931	1,311
Gunpowder .... do......	2,936	4,230	244
Sporting arms .... pieces...	79	167	204

I present, in the next table, the exports of the Kingdom for 1894, consisting of but three articles. This export was confined to Germans and

British, the American merchants, who figure favorably as importers, failing to be credited with a single export.

This table and the next following present in compendious form the history of the entire export of the islands for the past year. It will be seen that of the total, $316,473, goods in bond amounted to $48,963.

Articles of export for 1894 subject to duty, quantities of each, the total, and nationalities of the exporters.

Articles.	Exported by—		Total.
	Germans.	British.	
	Tons.	*Tons.*	*Tons.*
Copra	6,124¼	89½	6,214¾
Cotton	69¾	....	69¾
Coffee	8	....	8

Value of all exports for 1894, value of each leading article, amount exported by each of the nationalities enumerated, and the total export.

Articles.	Exported by—				Total.
	Americans.	Germans.	British.	Other nationalities.	
Copra:					
Produce of Samoa	....	$244,990	$3,580	....	$248,570
Produced outside of Samoa	....	12,880	....	....	12,880
Cotton	....	4,818	....	....	4,818
Coffee	....	1,242	....	....	1,242
Other produce	(*)	....	....	....	....
Imported goods in bond	$338	31,426	16,874	325	48,963
Total	338	295,356	20,454	325	316,473

* No record.

Export duties paid in 1894.

Paid on—	Paid by—		Total.
	Germans.	British.	
Copra	$4,287.56	$62.55	$1,350.11
Cotton	72.23	....	72.23
Coffee	24.84	....	24.84
Total	4,384.60	62.55	4,447.18

From the above it will be seen that the revenue derived from all export amounted to $4,447.18. Of this, the British paid but $62.55, while all other nationalities, including Americans, contributed nothing.

Value of the imports and exports of Samoa from 1890 to 1894.

Year.	Imports.	Exports.	Excess of imports.
1890	$218,130	$102,545	$115,585
1891	353,562	173,238	180,324
1892	336,594	181,783	154,811
1893	341,254	171,631	169,623
1894	451,389	316,473	134,909

The excess of imports over exports appears from the above statement to have been greater in 1891, 1892, and 1893 than in 1894; but this is susceptible of explanation. Copra is valued for export revenue purposes at about $28 per ton. Upon this valuation duty is levied. In the several years preceding the last, the valuation, in making the export statement, was the same as that for revenue purposes. Last year, however, while duty was levied at the old rate, this statement gives it a value of $40 per ton. Under the light of this explanation, it is clear the excess of import was greater than ever before.

TAXATION AND REVENUE.

The following tables present in compendious form a complete history of the collection of Government and municipal taxes for the year 1894. They show the amount collected on each of the several heads, the amount paid by each of the principal nationalities represented upon each separate account, the respective amounts paid by each nationality, and, finally, the total volume of the collection. These tables are highly instructive to those interested in Samoa and her affairs and throw a melancholy light upon her condition.

The total collection from all licenses and taxes of every kind for governmental purposes is $3,041.49; the total of all taxes and licenses for municipal purposes amounts to $4,822.20, so that the volume of collections in this village is greater by $1,780.71 than in all the remainder of the Kingdom combined.

The total Government and municipal revenue, from all sources of taxation combined, is $7,863.69, a sum far less than is raised by hundreds of mere villages in the United States for town purposes. Of this total revenue, Germans contribute $3,789.18, to the $2,150.91 paid in by the British. Americans pay in on all accounts $556.99. Germans pay within a few dollars of seven times as much as Americans and not greatly less than twice as much as British, who in turn pay nearly four times as much as do the Americans. Yet Americans, in proportion to numbers, contribute much more than do either of the other two nationalities.

Under the treaty, Samoans, in addition to such municipal taxes and other taxes for which they may be liable in common with others, are liable to a poll tax of $1 per head on every man, woman, and child. This is a most unwise provision and lies close to the root of all the disorder that has ever occurred and is one of the prime causes of the weakness of the Government.

If this Government had more than a nominal existence, backed as it is by three great powers, it could collect its taxes. To abandon this, to helplessly surrender its revenue, is to confess its inability. To acknowledge, as it tacitly does, that it is without power or force to compel the payment of the only tax it is in effect entitled to demand and to become a mere pauper, borrowing year by year from the revenues of this village a sum barely sufficient, not to pay its expenses, but merely a part of the most urgent needs, is an open surrender of the prime function of government.

All this, the Government of Samoa has done; but perhaps—most likely—it is the least to blame. Its prostration may be the result of design, in which it is the victim, without part in the purpose.

From its population, it should have a revenue of at least $30,000 from capitation tax alone, instead of the $3,041.49 it was last year enabled to gather from all sources.

Instead of the large sum just named, the entire body of the Samoan people in the year just past paid in taxes on all accounts in support of their Government $553.74; in addition, they paid municipal taxes to the amount of $13.50, a total of all taxes of every sort and kind of $567.24.

The thirty-two Americans registered in this consulate-general pay within $10.25 as much taxes as do the whole Samoan people.

This striking fact, like all others, is not without a reason, and, in this instance, it is a conspicuously plain one. The Samoans, like other people far more civilized, are averse, naturally, to paying out anything that can be avoided—perhaps much more averse. They do not pay taxes, first, because experience has demonstrated that they can not be compelled to pay; second, for the reason that when they did pay, they saw no return to themselves or their country for the payment. The tax itself is a most illy advised one. A man with the burden of a family upon him is required to pay $1 per year for each member of his family without exception. Even under the Samoan social system a family entails burden and expense in some measure, as elsewhere. A single man without family is taxed but $1, so that to the head of the family, already burdened with its expense, an additional burden is added, while the single man, best able to bear taxation, is subjected to the least contribution.

In 1893, Samoans paid capitation taxes to the amount of over $20,000. What did it avail them, what single cent's worth of benefit was it to Samoa or its people? Nothing. Samoans are not slow to see these patent facts. Taxation is a something but vaguely comprehended by the semicivilized mind at best. As the Samoan views it all, the taxes paid are swallowed up in salaries of foreign officials. Perhaps in return he receives "protection;" but this is a protection to his mind against himself—a protection of a King, a Government, which exists but in name; exists probably against his will; exists, but in the interest and to serve the ends of foreigners; exists because it is convenient and advantageous to the foreigners that it should continue. They well remember that a short time since this same Government and King were in a moment suppressed, the King deported as a felon, when it no longer served the interest of the foreigner that the Government should be "protected." True, that was before the treaty; but if the treaty has improved his condition or country, he has failed to discover in what particular. He may be pardoned if, in his lack of a high civilization, never having paid taxes before, he fails to understand why he should be taxed now for merely being alive in the land of his fathers, because a handful of seafaring men and their employeës have set up a few petty stores upon the shores to make money out of him by the sale of goods. This is the view, or something like it, the Samoan is not unlikely to hold.

If the necessary revenue for the Government was raised by an import duty, sufficient to meet its expenses, instead of the present absurd rate of 2 per cent, no capitation tax would be required. If there was no capitation tax, more than half the incentive to rebellion would be removed.

As it is, having other and perhaps better causes of dissatisfaction, the great majority of the population withdraw themselves from support of the Government and decline to accord it recognition. This, for the present, puts a period to the matter. They pay no tax; can not be compelled to pay one. The Government, being unable to coerce the rebellious, feels the injustice of enforcing collection from those who, under the persuasion of the guns of the ever-present men-of-war, remain loyal. So the Government is unable to collect from the unwilling and unwilling to collect from the willing. Thus it stands a fiction, as bereft of authority, real existence, as it is of revenue.

Amount of taxes collected for 1894, upon what account, and the proportion paid by the several nationalities.

Description.	Capitation tax.	Capitation tax, colored laborers.	Boats.	Dwellings.	Stores.	Occasional taxes.	Licenses.	Total.
Government taxes:								
Americans	....	....	$4.00	$2.85	$12.00	$4.66	$5.00	$28.51
Germans	....	$1,222.00	40.00	114.85	120.00	17.38	21.00	1,535.23
British	....	....	92.00	266.41	168.00	103.42	109.00	738.83
Other nationalities	....	....	48.00	76.25	60.00	.93	....	185.18
Samoans	$498.12	....	....	7.00	12.00	.62	36.00	553.74
Total	498.12	1,222.00	184.00	467.36	372.00	127.01	171.00	3,041.49
Municipal taxes:								
Americans	....	4.00	8.00	309.48	84.00	....	123.00	528.48
Germans	53.00	38.00	55.00	791.45	430.00	....	886.20	2,253.95
British	....	....	36.00	368.58	282.00	....	725.50	1,412.08
Other nationalities	....	....	20.00	240.69	156.00	....	197.50	614.19
Samoans	....	....	....	1.50	....	6.00	6.00	13.50
Total	53.00	42.00	119.00	1,711.70	952.00	6.00	1,938.50	4,822.20
Grand total	551.12	1,264.00	3 3.00	2,179.06	1,324.00	133.01	2,109.50	7,863.69

It may seem strange that these revenues for separate governments should, in this statement, be consolidated; but in the treaty and the several interpretations which, by the treaty powers, have been given to it, they are so allied as to be inseparable.

Revenue derived from all imports	$23,069.99
Revenue derived from all exports	4,447.18
Total of customs revenue	27,517.17
Add government and municipal taxes	7,863.69
Aggregate of revenues from all sources	35,380.86

HOW SALARIES ARE PAID.

The next and last table is an appropriate sequel to those going before. Of the total of all the revenues, $35,380.86, fixed salaries consume $26,564, or over 75 per cent. The sum named does not represent all the money spent in salaries. A great many other small salaries are paid for irregular and occasional services. The amount so expended, it would be very difficult or impossible to ascertain; it consumes, however, a not inconsiderable part of the remainder.

Twenty-five persons draw regular salaries. Of this number, two are Americans, three Germans, seven British, and twelve Samoans; the latter all in petty employments, with the exception of the King.

Of the $26,564 expended in salaries, Americans receive $6,924; British, $7,800; Germans, $6,920; and the twelve Samoans, in all, $4,920.

Two officials—the president of the municipal council, a German, who fills several rather nominal positions, and the chief justice, an American—together receive $11,000 in salaries; that is, these two officials are compensated to the extent of nearly one-third of the entire revenue, national and municipal combined. If nearly one-third part of the millions of the national revenues of the United States were paid out to two officials in salaries, it would scarcely be tolerated. Yet such is the case here under the operation of the treaty. The duties of the president are chiefly those of mayor of a village, its treasurer, and treasurer of the slender purse of the Samoan Government. These duties would not require above half the time of a business man of ordinary capacity, and $1,500 would be a fair compensation for all the services required.

Since the establishment of the supreme court, it has not, on the whole, been in session half the time. The chief justice enjoys a vacation of two months out of the twelve, without diminution of salary. During his absence, the duties are discharged, to some extent, by the president, when the rather curious spectacle may be presented, in the event of disagreement between the consular board and the council, of the reference of a question for final determination to this same president, or then acting chief justice, from the municipal council, of which he is the presiding officer, clothed with the right to vote.

Aside from litigation as to land matters coming for confirmation or rejection from the land commission, the controversies determined in the supreme court would scarcely be regarded as important. As to land litigation, it is determined by a few simple rules set out in the treaty. In other matters, the court is without jurisdiction, save in controversies between foreigners and Samoans and foreigners of different nationalities. In all other cases, jurisdiction remains with the consular and native courts.

From what has been shown of the business of the country, as exhibited in the tables already presented, it will be seen that as the volume of business is small, transactions and controversies are not of great amount; so litigation is not large in volume or considerable in the interests involved.

The position of president has at all times, since the treaty became operative, been held by a German. This, Germany seems to regard as her right. The president is treasurer, as has been said, and, under certain conditions, he is adviser to the Government; he is also presiding officer of the council, in which is vested much the larger share of that authority usually reposed in the national legislature in other countries, with the signal power of the deciding vote. He is, in effect, from his position, the greater part of the Government.

The chief justice and the president, provided with what would appear to be liberal salaries, are yet further provided for. The president, by joint contribution directly from the treasuries of the treaty powers, was allowed $1,500 for traveling expenses from Germany to Samoa. The chief justice was also allowed $1,500 from the same source for travel from the United States to this place. This sum he found insufficient, and on his own application an additional allowance of $1,000 was made to him, or $2,500 in all for traveling expenses.

In contrast, is the matter of the allowance to the King. Whatever he may be, he is a King; so declared and treated. On paper, he is allowed a salary of $150 per month—$1,800 per annum—while his chief justice is paid $6,000, and the treasurer, who is supposed to dole out his pittance, receives $5,000. Still, there is often a wide difference between what one may be allowed and that which he may be paid.

The Sovereign Lord of this realm is in a position to well appreciate this difference. Previous to the early part of the present year, he had been paid nothing for nearly two years, during which time he subsisted on such gifts of taro, yams, money, or other voluntary contributions as his kindred and adherents might offer. He was, in fact, a pauper. I was told last year by a friend, one of the world's most distinguished names, now deceased, that he had a few days before received a note from this King, pleading with him for a present of, or credit for, a little beef; that he was actually hungry.

For a few months past, the president has paid the King $50 per month, or one-third of his salary. Why other salaries are paid in full and not in like proportion, I am not informed. Perhaps the King is made a vicarious sacrifice for the shortcomings of his people in failing to pay their dues.

The treaty makes the dollars and cents of the United States the currency of the country. As a matter of fact, English money alone is in circulation, a sovereign passing as the equivalent of $5, a shilling as 25 cents. Still, customs dues, taxes, fines—all public dues—are required to be paid in American money or its equivalent.

Before leaving this subject of Samoan business, finances, and the kindred matters into which I have digressed at no doubt unreasonable length, it but remains to note that after the payment of salaries, there is left to the Government and the town of Apia to meet all the incidental expenses of government, for the erection of public buildings and works, the construction of streets, roadways, and bridges—all the fixed and incidental repairs and expenses, in short—the sum of $8,816.86. This is insufficient for the needs of the town alone.

The story is told in the general squalor and dilapidation of a town without a wharf, a public school, a fire engine, or a single foot of sidewalk.

It is little to be wondered at that Samoans will not pay taxes. When they freely paid more than $20,000 per annum, not a bridge, roadway, culvert, or improvement of any kind to the value of one dollar was made in the Kingdom outside of Apia. All that was spent was expended for the benefit of the foreign population.

I have indulged many contrasts; I may be pardoned yet another. Such, as shown by the several tables given, is Samoa, its business, revenue, productions, population, expenditures. If these figures demonstrate growth and prosperity, then the country is that marvel of fertility, that microcosm of all climates, it has been represented; then is it a well-governed country, and the Berlin treaty a crowning blessing. If all these figures put together in so many ways tell a tale of little trade, small production, and decline, then the country must have been much overrated and must be poorly governed under the treaty—one or both.

The entire trade of the Kingdom, all that was bought and sold, amounted to $767,862. There are very few of the smaller cities in the United States but have one or many commercial houses each doing as great a business as all this country combined, and yet one hears nothing about them. How insignificant appears this commercial total when compared with the business of Fiji or the Hawaiian Islands, with their millions of exports. There are ninety—not unlikely more than one hundred—cities in the United States with a greater population. These towns are peopled with producers and consumers; every one of them does a business, is actually worth, hundreds of times over, all these islands and their people, and yet, unitedly, they make no such noise in the world as does Samoa, for whose possession fleets were wrecked and in whose government the three greatest nations of modern times are concerned.

In comparison, let us take a glance at the little group of the Tonga Islands, about 600 miles distant, peopled by Polynesians, of close kin and much intermarried with Samoans—identically the same people. Tonga is the last independent group in the Pacific; it is always at peace, is independent, because, under a wise provision, no white man is allowed to acquire title to lands. He may lease, reside, and do business, but can not own lands.

Tonga is as fertile as Samoa is otherwise. The area of the Kingdom is 385 square miles, about one-fourth that of Samoa; the population is about 20,000, or less than two-thirds that of Samoa. Last year Tonga exported 7,066 tons of copra, as against Samoa's 6,214 tons; the export and import amounted to $793,062, as against Samoa's $767,862; the public revenue was $65,000, as against Samoa's $35,000; the revenue showed an increase as compared with the year before of $21,000, as against Samoa's decline; the customs yielded $56,000, as against Samoa's $27,000; and, finally, the Tonga post-office department's revenue amounted to near $3,000, while Samoa is without a post-office department, or, in fact, a post-office, the public being dependent in this respect on individual accommodation or German facilities. Tonga conducts her affairs through the agency of white officials, under the immediate supervision of the native Government. This system has given that group peace and prosperity, twin blessings which the treaty government has conspicuously failed to secure even in a small measure to unhappy Samoa.

Names of all persons holding office and drawing regular salaries from the Samoan Government and municipality of Apia, with official title, salary, and nationality of each.

Name.	Office.	Nationality.	Salary.
Malietoa	King	Samoan	$1,800
Henry C. Ide	Chief justice	American	6,000
E. Schmidt	President	German	5,000
J. B. Hay	Collector of customs	English	1,800
W. Cooper	Municipal magistrate	do	900
W. D. Hunt	Assistant collector of customs	do	1,200
E. W. Gurr	Native attorney	do	1,800
F. Marquardt	Chief of police	German	1,200
John O'Ryan	Pilot	American	924
F. Rose	Clerk to president	English	900
Stiff Johnson	Customs messenger	do	600
Thomas Murray	Jailor	do	600
J. H. Denvers	Clerk supreme court	do	Fees.
Selu	Court interpreter	Samoan	480
Tuivale	Clerk	do	240
Talan	Native judge	do	240
	Five policemen	do	1,800
	Three jail guards	do.	360
B. Funk	Health officer	German	720
Total			26,564

THE UNDEVELOPED CONDITION OF SAMOA.

It would seem that the representation I have endeavored to make of Samoa and its capabilities, supported by the figures adduced, widely, as it may be, at variance with the anticipations formed in the minds of those who have so enthusiastically written of them, finds confirmation in the primitive state of development seen to exist.

All the affairs of business, all the everyday things of domestic life, all administration of public affairs or individual transactions, are performed and conducted in the most primitive method. There is no incentive to enterprise and little room for development. This is, perhaps, in a measure, due to the elements contributing to make up the foreign population, composed in great part of seafaring men.

As it is, there is not a bank, not a steam vessel owned or employed in the islands, although an American is now building a boat, with an engine of small power. There is not a foot of railway or street railway in the Kingdom; not an omnibus, stagecoach, hearse, covered carriage, or coupé of private ownership or for public service—the nearest approach being two antiquated barouches. The roadcart—two-wheeled and uncovered—is now being considerably introduced.

There are but three or four bridges in the Kingdom, and these are all in this town. There is not a rod of roadway on any island other than this one; and on this, the united length of all streets and roads combined amounts to about 6 miles, all lying within the town, save where perhaps a mile of mud road extends beyond. This, of course, does not include the private roadways in the German plantations. There is not a wharf, pier, or elevator, goods being landed from vessels by lighters. There is not a foot of sidewalk in the Kingdom; nor is there a loom, a spinning wheel, an ice factory, laundry, factory, or mill of any kind. Not a foot of telegraph or telephone wire, public or private, nor did an electric light ever glare on these shores, save from some vessel in the harbor or ship passing in the night. Nor is there a public school, lunatic or orphan asylum, a poorhouse, or a hospital.

There is no incorporated business concern, other than the German firm, operating here, but owned in Hamburg. The only vessels owned in the islands are a few small cutters and schooners. There is but one steam engine in the country, employed to drive the ginning machine of the German firm, and its use, if not abandoned, will be as soon as the remnant of cotton still left growing shall pass away.

There is no such thing in the proper sense as a post-office. The Germans maintain a post-office as an adjunct to their consulate, and a private individual conducts another as a mere business.

There are two small hotels in the Kingdom. There is no tinsmith, saddler, tailor, or shoemaker. Such a thing as an agricultural machine or implement was never seen.

CLIMATE AND PUBLIC HEALTH.

In no particular has such unqualified excellence been claimed for Samoa as in that of climate. As a matter of fact, the climate is more pleasant than healthful; more delightful at first to the visitor or sojourner than beneficial to the resident.

It should be remembered that after all the many advantages claimed for this climate by the casual visitor, or by the searcher for health in his flight from the more rigid temperatures—finding, as he imagines, in the evenness of temperature, in the exemption from great changes, the climatic conditions sought, the one climate suited to his condition—that after all, this is a tropic country and its climate a tropic one. To expect the order of nature to be reversed or to find it affording a marked exception in climate is as thoughtless as to expect it to offer an exception in the matter of production. It is warm, not scorching; a hot, but moist, not dry and burning, climate, to be enjoyed, to be luxuriated in by one sojourning for a time, rather than one to invigorate the weak or to restore the declining to robust health.

In fact, it is a slowly undermining, an exhausting, and debilitating climate, that in its gradual, but certain, drain upon the strongest constitution exacts a full return for all the charm it affords. For the first few months, a white man is apt to enjoy good health, beyond perhaps an attack of short duration of a low fever during the process of acclimation. After this, he must expect to meet what the climate exacts. It is a trying climate of many ailments rather than of sharp or dangerous epidemics. Yellow fever, scarlatina, cholera, and smallpox have never been known. This fact—this exemption from these scourges—has undoubtedly been the foundation for the boasted healthfulness of the country. This exemption is unquestionably due more to isolation—to the wide distances from other countries—than to any peculiar condition. True, men live on here, in instances, to great age; so they do in the most fatal situations; the deadliest climates have their old men. But the merit or lack of merit is to be determined by the frequency of ailments and derangements and the proportion of deaths. That some men remain in health, proves nothing; it is entirely a matter of proportion and comparison.

Among old residents (whites) the climate is not claimed to be a favorable one; its disadvantages are not to be concealed—are freely admitted. With such, what is called a "health trip" to a colder climate, of more or less duration, is recognized as a necessity every few years. This was found requisite by the gentleman who perhaps of all others drew most attention to this country as the paradise of the invalid. Trying as the climate is to men, it is upon women that it is most injurious. Among resident white women, trips abroad are found to be more frequently necessary than with persons of the other sex. There are doubtless exceptions, but in a general way it may be asserted that no white woman in the earlier years of life can retain health in this climate. White women, born and reared in the country, enjoy much better health, of course, than those not acclimated from birth. Ordinarily a sound, healthy young woman coming into this country will become emaciated, sallow in complexion, and a prey to a succession of complaints—rarely knowing a day of good health—after remaining two or three years. Of course, to this there are also exceptions; I speak as to general facts. Young women born and bred in the country will not compare in health and vigor with those brought up in more favored countries.

As I have said, rather than a country of serious diseases, this is one of frequent illnesses, complaints, chronic disorders. There have unquestionably been cases of lung trouble not advanced into pronounced consumption and of nervous prostration which have been benefited by a stay in these islands; but it stands to reason that every form of lung trouble will not be so fortunate.

Consumption is a disease frequent among natives as well as foreigners. Perhaps their habits of life, frequent exposure to rains, cold winds in their open houses, while wet, are all conducive to incipient phthisis. Heavy catarrhal colds are common and cling tenaciously, lasting for weeks; malarial and typhoid fevers appear, not frequently; but low, debilitating fevers, slow to yield to treatment, are quite common. Perhaps it would give a clearer idea to say that the diseases named and others of like character are not more severe, but rather more frequent, than in temperate countries. In women, the climate is especially productive of, and exerts its worst effects in, the development of those diseases peculiar to females.

Certain ailments are recognized as peculiar to the tropics. Of these, Samoa has her share, save that she has so far been exempted from the more fatal epidemic diseases named. She is free as well of the deadly form of diarrhea so common and fatal in Fiji; also, of the leprosy of Hawaii, although there have been and are a few cases scattered through the islands. This last disease never found a footing here, and there are not so many cases of it now as there were in former times. As an offset to these, however, as in every tropic country, there are ailments peculiar to Samoa. One of the most prevalent and loathsome is elephantiasis, a mysterious disease little understood, supposed to have its seat in some disorder or disintegration of the lymphatic glands. It manifests itself simply in the enlarged condition of the limb or affected part. These sometimes, often in fact, become enlarged to an enormous size. It most frequently attacks the leg below the knee, next in frequency the arms, the scrotum, the breasts of women, and may appear in any part. Once established, it can not be relieved; it is not fatal, but works frightful deformities, permitting its victim to live on to old age.

It is apt to be set up rather suddenly in or about a joint, from negligent exposure to cold and wet. On the whole, white people are perhaps more liable to it than natives, although it is more often seen and in more enormous shapes among the latter. Whites arrest it by prompt attention, anointing with mercurial ointment and other remedies. Many white residents bear its evidences, but being not so great in enlargements, and these covered with clothing, which the native scantily indulges in, it would appear that white people are exempt to a greater extent than they really are. It is said every white man is sooner or later almost sure to be afflicted with it.

Other afflictions quite common are an inflammation and enlargement of the joints and limbs called "mumu," discharges from the ears, swellings of the groin, violent rashes, hydrocele, and, perhaps worse than all, the most malignant ulcers, which follow in a succession, sloughing deep into the flesh, and quite a number of malignant skin diseases, slow and difficult to cure, the most common of which is known among the natives as "tona."

To illustrate this subject, no vital statistics are to be had. Reckoned on the basis of the qualified vote, the death rate of Apia in 1894 amounted to 7½ per cent. This represents a death rate of 75 in the thousand, as compared with 17½ in Chicago, 22 in Washington, 26.37 in New Orleans, and 20.06 in Cincinnati.

Samoa, as will be seen by a glance at a chart, lies directly in the path of the northeast trade winds. As with most islands of the tropic South Pacific, she owes all the agreeable features of her climate to the tempering influence of these winds, which overcome the great heat that would be unbearable were not the direct rays of the sun thus ameliorated. The influences of these refreshing breezes are not to be overestimated. Situations exposed to the refreshing breath of the trades are delightfully pleasant during the greater part of the day, the intensity of the heat being appreciated only in places from which the winds are excluded by the thick woods, the mountain sides, or other barrier. Where so much of comfort depends upon the breeze, it may be readily understood how great the difference may be on different sides of the same house—between that exposed to the winds and that opposite to the point from which they come.

The nights in almost all localities are nearly always cool and pleasant. The exception to this is found only in such situations as are not reached by the land breeze, which at all points commences to blow gently off the land as soon as night fairly sets in and the trades have lapsed into their calm with the setting of the sun. Very warm and oppressive nights are frequent during the rainy season, from November to April, when for months the trades are stilled. But even in this season no great inconvenience is experienced, for the frequency and heaviness of the rains temper the atmosphere to a great extent, as the fanning of the trade winds does during the remainder of the year.

As to the mere question of comfort, very much depends here, as elsewhere, on the particular location, the surrounding obstructions—even upon the mere structure of the house itself. Small houses with small openings are very oppressive, especially to the unacclimated, while in an amply ventilated house, especially if in the second story or one well raised off the ground, the nights are all that could be desired and a blanket is more often indispensable than undesirable.

On the whole, I believe I might best convey an idea of temperature, without resort to figures, by generalizing every night as pleasant, every day as uncomfortably warm during the greater part, as on what is understood as a very warm day, rather than an oppressively hot day, in most parts of the United States.

Here the thermometer can not be accepted as so reliable an indicator as it may be elsewhere. The moisture of the atmosphere is always very great, and, in my experience, in localities unexposed to the breeze, as great discomfort will be felt when the thermometer stands at 88° as in most parts of the United States with the glass at 94°.

The difference between the day and night temperatures is very striking. As perhaps the middle of the forenoon is the warmest part of the day, so the very early morning, from 3 to 5 o'clock, is usually the coolest period. A difference of 25° or 27°, that is, from 91° or 92° to 65° or 66°, at night is not uncommon; at all times the difference, if not so great, is marked.

As recourse must be had for meterological data to mere private records—no official, standard data being available—the information to be had must be taken as approximate. The few private records are widely variant, telling of that difference of instruments and lack of close adherence to system that distinguishes the method of the private observer, liable to many interruptions, from that of official or corporate character.

Allowing for these differences, the highest range of the thermometer may be said to be from 91° to 93° F.; lowest, 64°. Last year was an unusual one in many ways; an unusually dry year, but one of an unequaled copra crop. The highest temperature reached, according to the best authority, was 91°; the lowest, 64.5°; mean temperature for the year, 77°. The highest points were reached in January and February; the lowest, in August.

Samoa is among the countries experiencing the heaviest rainfall. While the precipitation is far below that of parts of Brazil, India, and many other places, including Fiji, it is still among the localities most abundantly watered.

The rainfall for the past year was as follows:

Month.	Rainfall.	Month.	Rainfall.
	Inches.		*Inches.*
January	16.4	August	3.23
February	8.03	September	1.38
March	14.35	October	8.01
April	9.39	November	11.93
May	1.35	December	12.98
June	5.51	Total	97.68
July	5.12		

Observers differ as to the average annual precipitation. It has been placed as high as 150 inches; in 1882, one record put it at 166 inches. The most methodical observer now states it to be 130 inches, equal to 11.83 feet, or a fraction less, on the average, than a foot per month. This may be compared with a mean annual rainfall of 44.8 at Washington, 45.1 at New York, 36.2 at Chicago, 41 at Cincinnati, and 64.4 at New Orleans.

The highest velocity attained by the wind in 1894 was 48 miles an hour. Although Samoa has at long intervals in the past been visited by severe hurricanes, none of them, so far as accounts go, were of destructive violence, such as, in the form of cyclones, are not uncommon in many parts of the United States.

The barometer in this country loses much of its practical value. While it may be relied on to indicate that extreme pressure indicative of great disturbance, it gives no warning of such rainstorms as in the United States would be preceded by a sharp fall.

Thunder and lightning are very rare, and injuries to life and property from lightning are unknown. In this connection, it may be remarked that earthquakes are of frequent occurrence. It is rare that as long a period as a month passes without one. They are singularly local in character, being plainly noticeable in localities, while entirely unfelt a few miles away. The shocks are generally double, with merely a slight horizontal motion from east to west usually, and at times from north to south. They are at most very slight, generally pass unnoticed to the greater number of persons, and no tradition tells of any injury of any kind that ever resulted from one.

PRESENT GOVERNMENT.

With this perhaps unpardonable length, I take leave of financial and physical Samoa and beg to add something of that which I have so often mentioned as a fiction—the Government. Like everything else in this land of contradictions, it is a paradox; it is both real and a fiction. It is real because three great nations uphold it—because the frowning guns of two or three men-of-war declare it to be; it is a fiction, a shadow, in every other sense.

Its visible head is the melancholy Malietoa—by name Laupepa, or "sheet of paper"—well named. Perhaps to no man has fallen a more unenviable lot. At times he has risen to conduct not less than lofty, notably on one occasion, when he rose quite above himself. He is a thorough Samoan—fickle, unstable; yielding a ready assent to the last word of persuasion or advice, he is ready to forget it the next moment. He is a man of no will, no fixed opinion—a pipe to be blown upon.. Withal, he is, by heredity, education, a gentleman in manner; a man of lofty but courteous bearing, of great natural dignity, devoid of the least ostentation.

By some who know him best, it is said he has never been the same man since he was kidnaped and deported by the Germans; that his nervous constitution was shattered by his experience on that exile. During his absence, his place was filled by the now exiled Mataafa, a man of as noble descent, of as ancient lineage as is Malietoa; one who, perhaps, came nearer to being a really great man than any the Samoan race ever produced.

The Berlin treaty temporarily restored Malietoa to the throne. On his return, he urgently plead that Mataafa should continue to be King, his experience in wearing an imaginary diadem having been quite sufficient. This could not be, however, under the treaty determination, and Mataafa retired to Malie, where he wore the state of a King, as Malietoa continued to do in Apia.

In time, Mataafa's conduct afforded good reason or a pretext—it matters little which—for a war, which he promptly, like a gallant gentleman, met; but with no special display of ability. He had, in addition to Malietoa and part of Samoa, the war ships against him. Mataafa and eleven other chiefs were deported to the German Marshall Islands, where, to this day, they are held under German guards, exiled prisoners on a lonely coral island.

After a time, under the feeble rule of Malietoa—if he can be said to have had any part in his own rule—another war broke out under the younger Tamasese. The men-of-war assisted the Government, and Tamasese, in grudging form, submitted, to retire still in morose, if inactive, rebellion, much in the same manner that Mataafa had done before. This was in 1894. This Tamasese is the son of that elder man of the same name whom the Germans had once, by force, made King, in lieu of Malietoa. The present bearer of the name is supposed to favor German policy. He sinned more grievously than Mataafa had done; he had that unhappy man's example to warn him, but in his case deportation was not resorted to.

Throughout this and many tribulations, Malietoa continued to reign, and gradually his subjects, so little able to manage for themselves, so singularly astute in detecting the weak points, the errors, in the management of others, fell away from him until his kingship has become more a fiction than ever.

The Tuamasaga, the central district, always loyal, is still loyal to him. This may be because it is more accessible to marines, more exposed to the fire of the men-of-war, more the seat of foreign influence and power. Other villages, in places, are also earnest in their adhesion to him, in many cases through the many involved things that unite Samoan families, cement affiliations or give perpetuity to feuds. However, as the Government imposes no burden, attempts to collect no taxes, they can afford to be. It is not certain but that the advent of a tax collector would drive them all alike into rebellion. As it is, perhaps three-fourths of Samoa is in quiescent rebellion against the King and Government.

In proof of this, in proof of the assertion that the Government is a shadowy fiction, compare the $567, the total of all taxes paid by the Samoan people last year, with the near $25,000 collected when Maben was Secretary of State. The treaty levies an annual tax of $2 on each firearm. There are thousands in Samoa, yet last year not one dollar was collected or sought to be collected from this source. This tax is abandoned.

The legend runs "the King and the Government of Samoa." If a fiction and a legend be, as so often they are, synonymous, then legend is the apt word. This "Government," mid a cloud of vagaries, is not the least. True, the Government is the national Parliament, the "Faipule," that is clear enough; the Parliament is composed of chiefs, "Faipule," to make or rule. These must unite the hereditary and elective quality in each. The voice of the King is as nothing unless he speaks in union with the "Faipule;" he can do nothing without it; it is not so clear what the "Faipule" may do without the King. This vagueness grows as the foundations of authority are sought. Of what number the Parliament properly consists, how many members constitute a quorum, what, if any, dividing lines separate the Crown and the aristocratic democracy, are matters not to be determined. If broached, they would in this very Parliament be discussed for days, perhaps weeks, numberless precedents handed down through shifting tradition would be cited and invented, and in the end no determination would be reached.

The "Faipule" had best be taken as we find it. About 120 now answer to the beat of the wooden drum; as many more are probably absent.

It is certain, however, that the members are but representatives; they speak not of their will, but as the voice of the districts represented, and are supposed to be always subject to instruction. At present many who as chiefs are entitled to a place in the "Faipule" are in rebellion and therefore would not, or, again, dare not, attend. Others hold aloof through various motives, while still another number, who originally, of right, were entitled to membership, remain day in and day out, month after month, eating, sleeping, lounging, unendingly chatting at Mulinuu in the rather vain and profitless task of essaying to represent districts from which they hail, but in which, for perhaps more than a year past, they dared not set foot—that is, they are loyal to the King, while their people have ceased to be, perhaps never were. On the whole, it is a most unlikely body from which to expect wisdom or satisfactory action. Loyalty to the King does not mean fealty to him as King, but rather a mere partisanship for Malietoa.

The chiefs at enmity with or in rebellion against the Government are perhaps not more in the way of reconciliation and peace than are these discarded "Faipules," perhaps less so. On the one hand, the malcontents will submit only on such extreme terms as they themselves propose, viz, a reorganization of the Government and the deposition of Malietoa; on the other, the discarded chiefs—and they seem to exercise the greater weight—will permit no reconciliation, will have no peace save on other terms quite as extreme. A real peace, a general reconciliation, would send them back to their towns and to oblivion. It is this element that is of all others, in this peculiarly unfortunate situation, most potent for harm.

A Samoan is of all men most tenacious of his rank; in no country, does it count for so much. These men are deeply interested, for personal and family reasons, in the perpetuation of the present disorganization, in the hope that so long as it lasts, something may transpire to reinstate them. Thus their ingenious and diplomatic moves for the intervention of warships are unceasing; their maneuvers to precipitate hostilities are continuous. What is worse, they are a power to be adroitly used, unconsciously to themselves, by a word, a hint, a false report ingeniously devised, to perpetuate the existing chaotic situation.

The laws and customs of Samoa are defined with reasonable clearness. Perhaps if these people were permitted to reorganize and choose their own form of government, as is their right, in their fickleness they might in no long time turn against their own handiwork. If they should do so, then would be the time to enforce upon them obedience to and support of the system which they had devised and constructed; but until then—until the powers have made good their obligations, as a condition precedent, it is difficult to see why great war ships should shell these simple people on the mountain sides of their native land to perpetuate Malietoa and his worse than burlesque of a government.

The comparatively great intimacy which some years ago united the United States and Samoa has perceptibly declined. The American colony is so small; the American flag is so seldom seen in comparison with the English and German colors which continually float over great warships; the harmony of action between the officials of these two nations appears so complete, that the active control of the United States in these islands is lost sight of, and becomes, with the progress of time, more and more indistinct. Still, as a consequence of the former preponderance of American influence, in gratitude for the liberality of the United States to Samoa demonstrated so frequently, what might be termed as a real affection for America and Americans exists among the people.

If their songs be taken as an indication—and song here counts for more than elsewhere in the world—America is the theme twenty times where England or Germany finds a mention once.

It is safe to say that American annexation would by the Samoan people be received with universal rejoicing; among the foreign population, it would give more general satisfaction than would annexation to any other power.

Touching the matter of the decline of American influence, which appears undeniable, it is at first sight strange that this decline should be contemporaneous with the term of the treaty. I speak rather of moral influence, of local prestige.

True, exports and imports to and from the United States have increased, but in no way can these be traced to the influence of the treaty; such would not be pretended. It is difficult to define, to demonstrate, this, but it can none the less be perceived and felt. Time was when, despite the preponderance of German interest, the United States was nevertheless tacitly admitted and recognized to be the leading power in Samoan affairs and the one chief and closest in friendly alliance with her people. This, I take it, to have been true beyond dispute; not a material leadership, but one of prestige and sentiment. The proof of this is found in the fact that the first international treaty entered into by Samoa was with the United States. The position accorded to Steinberger was another, and additional ones could be cited.

Now, all this seems in some way changed. The municipal council has for several years been composed, as it now is, of three English subjects and three Germans. But two American citizens hold office of any kind. One of these, the chief justice, was directly selected by the treaty powers, local influence having no choice or power in the selection. But three Germans hold office, and of these the president was selected by the powers, so that but two of them hold place through the operation of local choice.

On the other hand, if the distribution of offices serves as an indication, British influence would seem to have been promoted; seven, including all the principal local offices, being held by British subjects.

The explanation, at least as to the decline of American prestige and influence generally, seems simple. Formerly the United States was free to act and make her influence felt. As at present circumstanced, linked in this alliance, she is without power of independent action, relegated to a minor place through the cooperation of the other parties to the agreement.

A wellwisher of Samoa and her people can not readily see her way clear to a happier, a more prosperous future through the avenues of the treaty. Before, she had the reliance of one friendly hand to guide and uphold. That hand is now fettered, in effect; its power to help is weakened.

No one can become acquainted with the people of Samoa, their simple wants or even their weaknesses, without the desire to see them retain the heritage of their fathers free and independent, under a government suitable to their simple needs. Should it come, as all generous men must wish, it will not appear in the form of a complex governmental system. It should be rather a fairly strong but humane central government, using the existing native district systems as a groundwork—as subsidiary or department subdivisions—working through them, utilizing them.

A King and peace are irreconcilable. The districts in local administration are all that is needed. They have in all the past proven sufficient for local needs, and here, as in every isolated country, local administration represents eighth-tenths of the governmental requirements.

Indeed, in the midst of the present disorganization, all the disorder and prostration is chargeable to the General Government and its nominal existence; all the order that prevails, the security of life and property enjoyed, is had from the provincial governments of the districts, their more intimate control operating upon a people capable of violence under excitement or provocation, but naturally timid, submissive, and of weaker mold.

In the meantime, unity of policy and action between the three treaty powers is insisted upon. Under the treaty, it stands to reason that such harmony is very desirable—nay, indispensable; without such unity, chaos would result and the whole fabric come down with a crash. Where three parties are united in a common agreement, as is the case under the existing compact, concord of action is the prime desideratum. But the situation may be complicated by a secondary union of interest between two of the parties, to the disadvantage of the third. It is in this position the United States finds herself placed. Where two of the parties express themselves in favor of a measure, the third finds itself in an awkward position.

It is precisely to this point that the treaty arrangement may drift, if it did not, in fact, pass it long ago. The mere statement of the situation, of its possibilities, is sufficient to convince one of the unwise entanglement into which the treaty leads. I would not surrender one atom of American prestige or right in these islands; I would not fail in one iota of the maintenance of the rights of these people who leagued themselves by treaty of friendly dependence on the United States as their first step in international affairs. And yet, at the same time, I am convinced that the United States, upon terms of right and justice, should put an end to an arrangement, under which a farce is perpetuated, from which no credit accrues.

The abrogation of the treaty would be a surrender of nothing on the part of the United States. All the rights she has, save in participation in maintaining this government fiction, remain secured to her by prior and existing treaty, to which the Berlin treaty, if it did not weaken, certainly added nothing.

PAGOPAGO.

So far as concerns the United States, the entire question of Samoa is centered in this harbor—that is, aside from what may be perhaps permissibly termed the humane interest of the American public in the rights and welfare of the Samoans.

I fear that generally throughout the United States a misconception popularly prevails as to what our rights in this harbor really are. We certainly do not own it; it has not been ceded to us. On the other hand, we have been granted merely a use of it for certain stated and restricted purposes. Let the Washington treaty of 1878 speak on this point; all the real rights we have are conveyed in this concession:

> Naval vessels of the United States shall have the privilege of entering and using the port of Pagopago and establishing therein and on the shores thereof a station for coal and other naval supplies for their naval and commercial marine, and the Samoan Government will hereafter neither exercise nor authorize any jurisdiction within said port adverse to such rights of the United States or restrictive thereof. The same vessels shall also have the privilege of entering other ports of the Samoan Islands.

This is the concession in its entirety. It would seem that should the Samoan Government undertake to give to another nation the same rights in Pagopago as those granted to the United States, that such action would be "exercising and authorizing a jurisdiction within said port adverse to the rights of the United States and restrictive thereof," but still it can not be denied that there is room for the other construction. The United States has, however, properly made repeated declaration that it would regard any purchase of lands on the shores of Pagopago for naval purposes by another nation as an unfriendly act, with the result that the concession has so far not been attempted to be infringed by any power, although rumor periodically asserts that such purpose has been determined upon.

The United States has further fortified its claim by the actual purchase of a site for a coaling station, including some 15 acres and the important point of Goat Island. Opinion differs as to whether the most desirable location has been secured or still rests in private ownership. However all this may be, it is at best a concession for a specific purpose—the establishment of "a station for coal and other naval supplies for their naval and commercial marine."

As I sought to make clear in the earlier part of this report, the concession and possession under it of the port, if limited to the establishment of a mere unprotected depot of supplies, can not be regarded as very valuable, for it would be available practically only in time of peace, and under such conditions, coaling stations, in effect, are to be had on every hand.

If regarded in this light, it would appear rather a convenience than the actual possession of an important base of operations and repair when such are of actual need and positive necessity.

As said, Pagopago could readily, as such things go, be made impregnable at a moderate expense. Its extent and capacity have been exaggerated, especially in such assertions as that it might conveniently inclose the navies of several nations. Competent judges—naval commanders—of whom I have inquired as to the matter, agree that from fifteen to twenty warships could find ample room and safe anchorage. There are objections to it, undoubtedly—difficulties to be overcome. The same is true of every harbor. The chief objection urged against Pagopago is its great depth, it being an extinct crater. At present, this would be a serious objection, in the event of several vessels being at anchor at the same time. The great length of chain would necessarily allow so much slack as to endanger collision in swinging from the anchor chains. It is needless to add that this minor difficulty could be readily overcome. Violent winds sweep down suddenly from the mountain gorges, such as endanger sailing vessels and put heavy strain upon the chains of larger ships. Again, it is not the best of harbors for sailing craft because of the narrow passage and the extended calms that often prevail, but for modern naval purposes, this need not be taken into account.

Its great advantage is that it is in effect entirely landlocked, at all times safe, especially for steam vessels.

There are but few days in the year when coal can be transferred from a ship to a man-of-war in any harbor in Samoa, except Pagopago, where it may be done at any time. There is no swell to bump and injure, as there is nearly all the time in the bay of Apia and the few others of the group.

The English men-of-war are always supplied with coal direct from Australia, and the transfer is never made in Apia—always in Pagopago, to avoid the swell.

During what is called the hurricane season, the English war ships lie for weeks in Pagopago without fires, being perfectly secure. They could lie also in Apia, save for the heavy swell, which rolls and jerks a ship unpleasantly rather than dangerously. But the more practical objection to Apia Bay is that, as a heavy gale and violent sea running into the harbor, such as united to cause the historic wreck of 1889, may occur at any time in the hurricane season, steam must be kept up all the time at the cost of great consumption of very expensive coal to provide against possible contingency.

Whatever value, in a naval point of view, Samoa possessed when the treaty of Washington was formulated, that importance has since been increased many times over. The apparently certain construction at no distant time of an isthmian canal adds greatly to the desirability of these islands and the harbors they contain, whether that canal is to be under American control or not. If under American direction, then the greater is the importance of the possession of this group. Samoa lies almost on the direct line of transit from the Isthmus of Panama to Auckland, Sydney, and, in fact, all parts of the Australian colonies. As the latter grow in population, production, and wealth, the volume of their tonnage to Europe especially and, in great part, to the United States, must seek the interoceanic canal as its route when built, unless driven away by exorbitant tolls. There are, on quite as direct a line as Apia, very many ports, but not one of them is American. From Panama to Apia is 5,710 miles; from Apia to Auckland, 1,500; to Sydney, 2,300. An American vessel, after passing through the canal, were it in operation, would, to reach Sydney, sail a distance of about 8,000 miles without opportunity to make on the route other than an alien port. In the event of the United States becoming engaged in a war, supposing the canal to have been constructed, the possession of an actual station as a naval base at Pagopago would be an advantage impossible of overestimate.

CONCLUSION.

It but remains to add that I have sincerely endeavored to present Samoa in its every aspect and feature as it has impressed me in a year of constant inquiry and close observation, deeming no particular too small to be taken into account, if it served ever so little to afford information or illustrate the actual conditions.

I am satisfied that the Berlin treaty was a mistake; that to maintain it under the conditions I have sought to point out is to persist in a mistake. The present status is an injustice to the people of the United States and a grave wrong to those of Samoa. If it be said that the treaty, so far as it concerns Samoa, has made matters no worse, it can be claimed with equal truth that it has failed to make them better in any particular. The admission of either postulate is to confess a failure.

JAMES H. MULLIGAN,
Consul-General.

APIA, *September 1, 1895.*

MANUFACTURE OF PALM-LEAF HATS IN MALAGA.

The palmetto, or palm, of the province of Malaga, from which so many bales of hats and other useful articles are yearly made, can hardly be called a tree, as it is rarely above 19½ feet high. It is found chiefly in that part of Spain known as Andalusia, but especially in the province of Malaga, though also in Murcia and Valencia. It does not, however, seem to be equally distributed through all parts of this province. Where it most abounds is in and about the town of Almojia, which is some 12 miles distant from this city (Malaga).

The hats from the palm grown in Valencia and Murcia are chiefly used in the country, while those made in Malaga are shipped almost exclusively to the United States. About 20 feet is the greatest height the palm is said to attain under the most favorable conditions, and this only in the "vega," on rich table-lands or in fertile valleys. On the mountain tops, hillsides, and rocky lands the palmetto is nothing more than a shrub, say from 4 to 6 feet in height. It sprouts, spreads, and increases rapidly even on poor soil, where, in fact, it is chiefly found. It requires no cultivation or preparation of the soil to promote its growth, and it is well that such is the case. It is reasonable to suppose, however, that with special pains taken in preparation and cultivation the palm might be improved in quality and the quantity grown might be greatly increased. This shrub, or stunted tree, is, however, very valuable when it is considered what a variety of useful articles are made therefrom. The fruit and the root, either in the natural state or prepared, are edible. The kernel of the fruit is so hard and durable that it is used for making buttons and beads for ornament and for rosaries, etc. The roofs of huts are covered with the slender blades of the palm. Hampers are made from it; common and fancy baskets, also, as well as matting, brooms, and cordage. The palm also yields a sort of fine fiber which is used for upholstering mattresses, chairs, sofas, etc.

It is, however, from the hats that are made from the palm that the greatest revenue seems to be derived. It is estimated that there were some 4,800,000 hats exported last year from this province, made from this insignificant, scraggy looking little palm, the value of which to those making them was calculated at $160,000.

For centuries these common palm hats have been used by the people of Spain, especially by the country people and the laboring classes. It is only some twenty-five or thirty years, however, since palm hats have been exported from this place. Only the common or coarse kinds are now exported, all, or nearly all, being sent to the United States. Fine palm hats are manufactured in this country, but only to a very limited extent. The reason, as I have been informed, why the manufacture of fine palm hats is not more extensively carried on here is the excessive cost of labor in the manufacture, better prices, relatively, being realized for the common or coarse grade. All the hats of the common kind, whether used in the country or exported, are made by hand. No machinery whatever is employed for the purpose, nor are there any establishments devoted exclusively to the business in this consular district.

The entire number of hats made in this district, both for home use and for exportation, is the work chiefly of women and children in their own homes. Men and boys also turn their hand to the business when there is little employment to be otherwise found. The number of persons estimated as being engaged in making palm hats in this district is put down at about 10,000, of whom by far the greater number live in and about the town of Almojia. In fact, it is from this source that the people of that locality derive their chief means of support. A very active person in this line can make about six large hats per day; a person, however, who turns off five large hats is considered as having done a fair average day's work. Of the smaller size, the making of from ten to twelve is considered a fair day's work. As there is no actual market for the hats, there is no quoted market price. The price paid depends chiefly upon the terms agreed upon by the purchasers and the makers of the hats.

As the people making them are, in general, very poor, they are usually obliged to take what is offered, although it is said there is a kind of tacit understanding among all the exporters to pay about the same price, according to the season of the year and the demand. The usual price paid to the maker of the small and medium sizes, I am told, is from 4 to 5 reals per dozen, equivalent to 20 to 25 cents in United States money. For the large and extra large, a higher price is paid—from 6 to 8 reals per dozen. An average of 25 cents per day is made by a steady hat maker, working from 7 a. m. to 6 p. m., with the usual time allowed for the meal at or about noon. If the business were properly worked up and machinery could be employed in the manufacture of whatever could be made from the palm, and some care were bestowed upon the cultivation of this useful shrub or tree, it is not at all improbable that it might be made a very profitable industry.

DAVID N. BURKE,
MALAGA, *March 21, 1896.* *Consul.*

STOCK AND GRAIN SPECULATION IN GERMANY.

It is the purpose of the German Government to exercise severe control over stock-exchange transactions and the issue of stocks and bonds by new companies, with a view to lessening speculation and protecting the public from fraudulent or uncertain financial and commercial enterprises.

A comprehensive law to this end has just been adopted by the Reichstag by an overwhelming majority. It is likely to cause a revolution in the present stock-exchange methods. In the first place, it is intended to discourage stock speculating by forbidding certain Börsen-Termin-Handel (exchange time contracts) for grain, as well as stocks and bonds. The Government will assume a certain control over all stock-exchange business, with special reference to the listing on the stock exchange of new issues of stocks and bonds or paper of new companies. It will endeavor to maintain less fluctuating and, as the Agrarians hope, higher prices for grain and mill products by forbidding all time-delivery contracts being made on 'change for such grain and products.

The rapid growth of stock speculation in Germany and the heavy loss experienced by the public are said to have caused this legislation to have been set afoot and adopted. It is more likely, however, to have emanated from the Agrarians, who think, by such legislation, to bring about an increase in the price of grain and produce in Germany.

No matter what the source of inspiration may have been, the effect, if carried out, will prove wholesome if it prevents stock gambling and makes it difficult to float unsound stocks upon the market.

I quote below some of the more prominent paragraphs of the new law:

1.—STATE SUPERVISION.

At the German stock and produce exchanges State commissioners are to be appointed as representatives of the Government, whose duties shall be to control all exchange transactions and exact the fulfillment of the laws governing such transactions. They are entitled to be present at the meetings of the exchange committees and draw attention to abuses. They shall report to the Government any wants they discover and propose such means as they judge will provide for them.

2.—LISTING OF STOCKS AND BONDS ON 'CHANGE.

The listing of stocks and bonds shall be decided by a committee on admissions, of which at least one-half shall not be members of the exchange (Börse). At each committee meeting such members must be excluded as have any interest whatever in bonds and stocks under consideration. Such members must be substituted by other members.

Stocks and bonds can only be admitted after at least one year's existence of the company and after the publication of one year's profit and loss account.

The duties of the committee on admissions are (1) to require all documents which may serve as a basis of judgment for a new issue of bonds and stocks; (2) to have the public informed as fully as possible of the actual and legal conditions necessary for the proper appreciation of the bonds and stocks, and not to admit them if the information furnished is incomplete; (3) not to admit issues by which common public interests may be hurt or the public deceived.

The committee may refuse an issue without giving reasons. If a prospectus, on the strength of which an issue of stock has been effected, contains false statements or omits facts important for the appreciation of the stocks, both those who have prepared the statements and those who have made them public are held responsible for any loss experienced by the owner of the stocks.

3.—TIME CONTRACTS ON EXCHANGES.

The confederate council (Bundesrath) is empowered to forbid time contracts on exchange for certain goods, stocks, or bonds, or to allow them only under certain conditions. The Börsen time-delivery contracts in mining shares and shares of manufacturing establishments are forbidden. The Börsen time contracts in shares of other companies shall only be allowed if their capital is at least 20,000,000 marks ($4,760,000). The Börsen time contracts in grain and mill products are forbidden.

Each court of justice, keeping a register of mercantile firms, shall also have a Börsen register for goods (grain, jute, coal, sugar, etc.) and one for stocks and bonds. Every person or firm wishing to transact time deliveries on exchange shall there enter his name, domicile, and profession, paying a fee of 150 marks ($35.70) for the first year and 25 marks ($5.95) for each subsequent year. The register is open for public inspection. Each entry shall be at once published, for the benefit of those concerned, in the Reichsanzeiger (Official Gazette) and such newspaper as the official court notices are inserted in. On January 1, each court shall make a list of all persons and firms entered, which shall be sent to the court for the district of the city of Berlin, and on January 31 of each year the latter shall publish a copy of the whole register in the Reichsanzeiger.

If two parties, on transacting a time-delivery contract, were not both entered in one of the registers, above described, for their respective lines of business (produce or stocks and bonds), a contract between them is not considered to exist, and its settlement can not be effected by recourse to courts of law. The same is the case if the contract is made abroad or is to be delivered abroad.

4.—PUNISHMENT AND FINES.

Any person who, with fraudulent intent, uses means calculated to deceive, for the purpose of influencing the exchange or market value of goods or bonds and stocks; or who, with fraudulent intent, makes false statements in prospectuses or public prints to influence subscriptions to, or the purchase or sale of, bonds and stocks; or who, with the object of gain, induces others to enter upon exchange speculations, profiting by their inexperience; or who, in order to procure profit to himself or a third person, causes loss to a person by giving wrong advice or false information concerning exchange transactions, shall be subject to imprisonment and fines of from 3,000 to 15,000 marks ($714 to $3,570), according to the nature of the case.

The law goes into effect on January 1, 1897, excepting the paragraph in which the issue of shares of a company only after one year's existence and the publication of the profit and loss account is forbidden. This paragraph becomes law on July 1, 1896, in order to prevent a large quantity of new stock being thrown upon the market before the enforcement of the law.

The father of the law is, as already intimated, the Agrarian party in the Reichstag, whose leaders are at the head of the Bund der Landwirthe, a union of 80,000 farmers throughout Germany, and their chief aim is to get higher prices for their produce and be less dependent upon the Berlin exchange. They say that the time deliveries facilitate imports and hence depress prices, allowing the large speculators to exercise complete control of the market. They say that the speculator makes a plaything of the principal food of man, and that much more grain is sold than is grown on the earth.

There is no doubt that German agriculture is severely depressed, owing to the prevailing low prices, which render any remunerative return from the cultivation of the soil very uncertain (a profit of 4 to 5 per cent on the capital invested is the most that can be looked for). But it is doubtful whether the bill will have the effect anticipated, *i. e.*, amelioration of the agricultural classes. Some foresee, on the contrary, a falling off of prices and greater fluctuations, as the selling facilities will be restricted and the time-delivery contracts will no longer compensate for the fluctuations.

The way in which grain merchants view the law is shown by the action of the Bremen grain firms, large and small, which have declared unanimously in favor of the abolition of time-delivery contracts. There are, of course, many others who take the opposite view, and the argument they make is not to be despised. They fear that the big grain transactions for time delivery will now be concluded abroad, and that Rotterdam may perhaps attract all business of this description hitherto transacted in Germany. In order to counterbalance this apprehension, the Reichstag has passed a resolution authorizing the Imperial Government to address the foreign powers with a view to calling an international convention looking to the abolition of time-delivery contracts.

Regarding the laws concerning the sale of stocks and bonds, these are intended to protect outsiders from the dangers threatening them by the issue of shares of uncertain enterprises, but it would seem that the Agrarians introduced them in order to make their law regarding dealings in grain and produce more palatable for the Reichstag members. In consequence of the new law, the speculating public will turn from the produce market to the money market; this is already shown. They will in future speculate in bank, railway, and steamship shares, as industrials will be practically closed to them.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *June 11, 1896.*

DRIED FRUITS IN SWITZERLAND.

CALIFORNIA FRENCH PRUNES.

Quite a quantity of California French prunes were exported to France last season. A California firm of my acquaintance exported a round lot to Havre, France, and while on leave at home in California last winter I had the opportunity of investigating matters a little closer. Upon investigation, I learned the following facts:

California French prunes, such as were shipped, gave good satisfaction and were sold not as California prunes, but as the genuine French-grown article, being fully as good in quality and appearance. The receiver of said lot made the following suggestions for another season's shipment:

Goods must be packed in cases similar to those used by the French. Net weight must be marked on cases in kilograms, and prices made per kilogram and not in American pounds. Eliminate all marks, names of firms, or place of origin, so as to enable French importers to sell the goods as a French product. The size of fruit being determined by its number to the pound in America, the same method prevails in France, with the difference that, instead of figuring as we do by pound, the size is determined by so many to the kilogram, and, in order to be successful, we must adopt the French way and quote accordingly. Small fruit is not wanted, only such as run from forty to sixty and, a few, eighty to the pound, or its equivalent figured by kilogram, will find a ready market.

My idea is that prunes should be shipped in good, strong sacks. This will not only save freight charges, but also allow the French to pack the fruit in boxes of sizes and form best adapted to their trade. As long as we have not our own American houses abroad, we must submit to have our product sold without getting due credit for it and let foreigners reap the lion's share of profit out of our goods. I reiterate what I have written on previous occasions, that the only way we can successfully introduce our goods, compete with other points of production, get all the traffic will bear, and thereby establish a permanent market abroad for our products, without, however, going to extremes, is to establish agencies at some of the principal European ports, with some of our own interested people as agents, and from these points work all Europe.

Prunes were sold very cheap free on board at California points last season. The prices ranged from 3 cents for small, 3½ cents for medium, and 4 to 4½ cents—even some lots sold at 5 cents—for large to fancy, free on board California. This, no doubt, was the reason we succeeded in getting our prunes into French markets. These figures may seem low to the uninitiated, but when it is explained that the yield of prunes per acre is large, the fruit more easily handled, dried, and packed for market, at a less expense than peaches, apricots, nectarines, pears, or apples, and that it takes but 3 pounds of green prunes, as against 7 pounds of apricots and 8 pounds of peaches or apples, to make 1 pound of the cured or dried articles, it becomes at once evident that taking prunes at the lowest figure above named, which represent fruit running from eighty to one hundred and twenty to the pound, namely, the cheapest grades, it will bring the grower 1 cent per pound or $20 per ton for his prunes in a green state on the trees, which I, as well as others, must consider a pretty good revenue, and which means a return of not less than $200 per acre for the small-sized or cheapest prunes.

DRIED FRUITS IN GENERAL.

I have investigated of late the market for American dried fruits in Switzerland, which, when I first came here, was poor. None were to be found; only once in a while a box of stray apricots found its way to this country and retailed at 48 cents per pound. To-day, one can find American ring apples, California dried pears, peaches, apricots, and nectarines in nearly every retail store.

The French prunes sold here under French label probably hail from California also, but the prices of all our dried fruits are still too high to make them popular. While apricots now retail at 20 cents per pound, peaches, pears, and nectarines are held at 30 cents per pound, which is ridiculous, when, as I know, apricots sold free on board California points last season at 5 to 6 cents, while nectarines and choice and fancy peaches went begging at from 3½ to 4½ cents per pound, the former for good average and the latter price for fancy, unpeeled stock.

The reason for this discrimination is no doubt to be attributed to the fact that apricots are already well and favorably known throughout Europe and are shipped in large quantities, while peaches, nectarines, and pears, which can be produced as cheaply, and, in the case of pears or peaches more cheaply, than apricots, have only been sent here, so far, in a small experimental way. Swiss customs statistics do not show how much dried fruit was imported during 1894 and 1895 into Switzerland from the United States, because none, so far as I can learn, reached the dealers in a direct way; hence I can not at this time give statistical information.

All such fruits are bought from the German, French, Italian, and English importing firms by jobbers, who, in turn, sell to the retail trade, and this has a tendency of increasing the price of these commodities materially.

To give an idea of the great importance of the American fruit trade and the necessity to seek a market for our products, I append below statistics for the year 1893, the only ones I have on hand, and which I took from figures published in the San Francisco Chronicle on December 30, 1893. In that year California, one State in our great Union, produced the following quantities of dried and canned fruit: Raisins, 63,500,000 pounds; dried fruits (peaches, pears, apples, and apricots), 54,000,000 pounds; prunes, 47,000,000 pounds; walnuts (estimated), 4,000,000 pounds; canned fruits, 1,100,000 cases (2 dozen 2½-pound cans to the case). Since that period, the yield, owing to the additional acreage put under cultivation annually, has no doubt much increased.

After returning to my post, I inquired into the prospects of the incoming French prune crop, and the reports I have obtained from a reliable French source, in a letter dated Havre, June 23, read about as follows:

> The writer has just returned from (des pays du Midi) southern parts of France, where the main crops of "prunes d'ente" are cured and packed, where I went in quest of information as to the prospects for the incoming prune crop. Judging from present appearances, the crop should be good, the trees having well blossomed. The packers lost considerable money last year, owing to California competition. They know this competition is formidable (redoubtable) and growing more so every year, especially so for large-sized fruits (our small fruit is not in demand), and they are trying to combine in order to purchase the green French product at lower figures than heretofore (to which scheme the producers no doubt will seriously object) in order to be able to drive out this unwelcome new California competitor. The important matter is to ship the Californta product in French cases and bill in French weights (to facilitate calculation). The French retail dealers find no difference between the real French and the transoceanic article and buy it readily; but, like last year, however, only good-sized clean fruit will be in demand.

EUGENE GERMAIN,
Consul.

ZURICH, *June 25, 1896.*

MANUFACTURE AND USES OF CARBONIC ACID IN GERMANY.

Referring to special instructions from the Department, I have now to submit, in compliance therewith, a report describing briefly the uses and various processes of manufacture of carbonic acid, or carbon dioxide, in Germany.

Inasmuch as the production and consumption of this material have assumed a greatly increased importance during recent years, and since the process of obtaining liquid carbonic acid from natural gas seems to be comparatively unknown in the United States, I have devoted the main portion of the present report to that branch of the subject. It can hardly be doubted that in several districts of the United States natural carbonic-acid gas could be obtained and condensed for commerce by the same methods employed in this country, and that there might be thus developed the necessary conditions of a new and important industry.

MANUFACTURE AND USES.

The uses of carbonic acid in Germany have become of late years so varied and extensive that its manufacture now forms one of the important special branches of industry. Carbonic acid is a dioxide of carbon, and is produced by one of three general methods, viz: By annealing a natural mineral carbonate, as limestone, in a closed oven; or by treating chalk, marble, or magnesite with acids, which unite with the basic element of the carbonate, liberating the carbon dioxide in the form of gas; or it is developed by natural means in the crust of the earth and is forced by its own expansive pressure to the surface, where it is collected and condensed by pressure at low temperature into liquid, which, being inclosed in strong metallic flasks, becomes a cheap and convenient article of merchandise. On being liberated, this liquid dioxide immediately resumes its gaseous form, which, by absorption of latent heat, produces intense cold, wherefore its value as a refrigerating material.

The industrial uses of carbonic acid may be classified under three general groups—(1) for aërating mineral waters, beer, sparkling wines, and other effervescent beverages; (2) for making various carbonates and other products, such as salicylic acid, in chemical manufacture; and (3), for the manufacture of artificial ice and the cooling of refrigerators and cold-storage chambers.

For the first of these uses, the dioxide should be pure and tasteless, otherwise it may give to the water, beer, or other liquid a disagreeable flavor or even render it unwholesome as a beverage. When produced artificially, these impurities may generally be eliminated by washing the gas repeatedly with water, but for refrigerators and many chemical purposes a high degree of purity is less essential, and the cheapest method of producing the dioxide is then usually employed. The consumption of carbonic acid for all these purposes is estimated to have doubled in this country during the past ten years, and its production has rather more than kept pace with its steadily increasing use. Complete statistics for the past two years are not available, but in 1891 twenty-three firms produced 6,600,000 pounds of liquid carbonic acid, and in 1892 the exports of that material amounted to 2,053,360 pounds. There are now twenty-eight firms and syndicates engaged in the manufacture, with a steadily increasing output, and the business seems to be active and prosperous.

When produced artificially by either the annealing or acid processes, carbonic-acid gas is usually tainted either by impurities in the acids themselves or by organic matter in the chalk, limestone, or marble that may have been used, so that the gas used for making pure chemicals and for aërating mineral waters, beer, wines, etc., is now generally obtained in Germany from the decomposition of magnesite, or still more from natural carbonic-acid springs, which exist abundantly in the Lower Rhine region, between Mayence and Cologne. Many of the springs have been known for centuries, but their importance as sources of carbonic acid dates from only a few years ago, when the process of condensing the gas into liquid form was perfected, and it became thereby a cheap and convenient commercial product.

I.—NATURAL CARBONIC ACID.

The exact conditions under which carbon dioxide is developed at varying depths below the surface of the earth are not definitely known. It appears usually in active or extinct volcanic regions, and in the neighborhood of hills or mountains. The most generally accepted theory is that it is generated by the action of heat and the oxygen of water upon graphite, a mineral carbon which forms part of the interior crust of the earth in most volcanic regions. It is generally thought that the acid is evolved at considerable depth and under enormous pressure, by which it is forced upward through natural fissures, in combination with water, to the surface, where, upon reaching the air, it expands into gas and either escapes as a dry gas or rises from the water of effervescent springs. Having thus been washed and filtered while either in gaseous or liquid form through abundant water, and expelled slowly under heavy pressure, natural carbon dioxide is usually tasteless, odorless, and pure.

There are, in the Lower Rhine country, hundreds of springs—including such well-known sources as the Apollinaris, Selters, Kronthal, Ems, and Nauheim springs—which yield waters more or less overcharged with carbonic-acid gas. Where the gas is in excess, it escapes in the ebullition of the fountain, which, being securely inclosed, the surplus gas is collected and either condensed into liquid dioxide or used directly for impregnating natural mineral waters which have other valuable qualities, but are deficient in effervescence. Where, as is often the case, the water is impure or wanting in medicinal qualities, it is run to waste, and the spring utilized only for its carbonic-acid gas.

From the time when the manufacture of liquid carbon dioxide became an established industry, the supply of gas from natural springs became inadequate, and recourse was had to artificial borings. The first artesian well for this purpose was sunk at Burgbrohl, a few miles westward from the Rhine, below Coblenz, in 1883, and was only 5½ inches in diameter. At a depth of 171 feet a vein was reached, from which spouted up a stream 35 feet in height, that yielded 108 gallons of water per minute and 375 gallons of dry carbonic-acid gas. It continued to flow at this rate until 1891, a period of eight years, during which time there was condensed from the gas of that single well 1,394,800 pounds of liquid carbonic acid. Its yield was regular and constant until 1891, when a similar well was bored still deeper at a distance of 130 feet from the original one. This tapped the same source of supply, and from that time the older well declined somewhat in its yield, but it is still in use. Since then other wells have been bored at various points in the surrounding region, notably at Hönningen and Linz, near Coblenz, and within the past few weeks a remarkable one has been opened at Herste, near Driburg, in the northeastern part of Westphalia.

From a description of this well, published in the Chemiker Zeitung, it would appear that a new and important carbonic-acid district has been discovered. It was noticed some time ago that gases which would extinguish a lighted match or candle were rising from holes and crevices in the ground, and that the small pools of water thereabouts were frequently in ebullition. Boring was accordingly begun, and at a depth of 25 feet the outflow of gas became so profuse that the workmen were in danger of suffocation. Means were adopted to divert this outflow, and the boring proceeded until, at a depth of 438 feet, there was an explosion. Bore dust, pebbles, etc., were blown out to a height of 70 feet, accompanied by a stream of gas so powerful that the roar of its escape could be heard at a long distance. Thus far the well had been quite dry, and work was continued under great difficulties, until, at a depth of 485 feet, a vein of water was struck which rushed out as finely atomized spray to a height of nearly 100 feet, yielding 88 gallons of water per minute. The well has since been cased with an iron pipe, which conducts the outflow into a large reservoir, where the water separates by gravity from the gas, which is then forced into compressers and condensed to liquid carbonic acid. One measure of liquid contains 430 measures of gas.

This well is interesting as an illustration of the fact that, as usual, the strata through which it was bored have no apparent relation to the gas which it yields. The ground at that point is a bed of red marl, interlaid with irregular and unimportant strata of slate and gypsum. This extends to a depth of 460 feet, when a layer of soft white sandstone was reached, and in a crevice of this the vein of water was found. None of these can supply the carbonic acid, and the same is true of the slates and granite of the Burgbrohl and Linz district, so that the conclusion is inevitable that the carbonic acid is developed at a great depth, and wholly independently of the overlying geological strata, through which it escapes to the surface. The only certain indication of its presence is the rising of the gas itself, and wherever in the United States carbonic-acid gases are found in hollows of the earth or escaping through crevices in rocks, it may be fairly assumed that the artesian drill would open up, at a greater or less depth, a mine of undeveloped wealth.

The abundance of the gas supply thus obtained in Germany, the ease and cheapness with which it can be condensed, bottled, and transported, have combined to develop the production of liquid carbonic acid until it has overtaken the steadily increasing consumption, and most of the leading well owners are associated in syndicates which regulate the output, fix the prices, make sales and contracts, and thus secure the advantages of organized, harmonious management. As an example of these associations may be cited the Rheinisches Kohlensäure Syndikat, a combination of six spring owners at Oberlahnstein, Obermendig, Burgbrohl, Andernach, Senzig, and Hönningen, all in the vicinity of Coblenz, at which city the central office of the syndicate is located. Its method of business is as follows:

The gas is collected at the different wells and condensed into liquid dioxide, which is put into strong, wrought-iron flasks of such size as to contain 17, 22, or 44 pounds, respectively. As the pressure at which carbonic-acid gas condenses ranges at various temperatures from 36 to 75 atmospheres, these flasks are required to be of great strength, and each is provided with a strong, perfectly-fitted valve and exit tube, threaded so as to be readily screwed into the receptacle in which the acid is to be afterwards used. The flasks are made of heavy boiler steel, and are officially tested up to 250 atmospheres, although in actual use the pressure rarely exceeds half that degree. The business of the syndicate may be estimated from the fact that it has in constant use not less than 45,000 of these flasks, which are filled and supplied by rail or river transport to its customers free of charge, provided the empty flask is returned to the syndicate within thirty days after the date of shipment. If they are retained beyond a month, a charge of three-fourths of a cent per day is made for each flask, and if not returned within six months they are charged to the consumer at cost, that is, from $9.50 to $16 each, according to size.

The present market price of liquid carbonic acid condensed from natural gas and supplied by the above method is 11 cents per kilogram, equal to 5 cents per American pound. From this general rate there is granted a discount of something more than half a cent per kilogram to customers whose orders aggregate more than 500 kilograms (1,102 pounds) within a calendar year. This discount is 2½ cents per kilogram to consumers of 1,000 kilograms, and 4 cents per kilogram to consumers of 5,000 kilograms or more per year. It will thus be seen that large purchasers, who buy for their own use or for export more than 5 tons of acid from the same syndicate within a year, can obtain it for a minimum price of about 7 cents per kilogram

(3.17 cents per pound). Rates like these for carbonic acid of warranted purity naturally control the market, and have contributed largely to the greatly increased use of this material during the past ten years.

The use of carbonic acid in connection with beer is as follows: The thing desired was a latent and easily controlled force which, without injuring the quality of the beer, should lift it from the storage cask in the cellar to the faucets above, where it is drawn for consumption. For this purpose the flask containing the liquid dioxide is connected with a reservoir which is provided with a manometer and adjustable pipes to convey the gas into the cask or casks in which the beer is kept on draft. These connections being adjusted, a small quantity of acid is let into the reservoir, where it expands at once into gas with development of cold. When the manometer shows a pressure of 2 atmospheres, the supply of acid is shut off, and the generated gas, passing through the pipe into the cask, acts as a steady, automatic power to force the beer up to where it is drawn for use. Air used in this manner requires to be condensed by mechanical power, and moreover ferments and otherwise injures the beer. Carbonic acid, on the other hand, not only furnishes spontaneously any required degree of pressure, but adds an important element to the beer itself, supplying any deficiency in effervescence, preserves the beer fresh and sparkling, and enables the contents of each cask to be used, unimpared in quality, down to the last half pint.

2.—ARTIFICIAL MINERAL WATERS.

For fortifying and recharging natural mineral waters which are deficient in carbonic acid, the natural dioxide gas is usually employed directly at the spring, without condensation to liquid form, and for this purpose it is superior to gas prepared by any artificial method. But for the manufacture of soda and other artificial waters that are made from ordinary or distilled water, the liquid dioxide condensed from natural gas has one defect, viz, it contains a small percentage of atmospheric air, which, when present, prevents the perfect combination of the carbonic-acid gas with the water, and inclines the gas to escape too readily when the bottle containing the aërated water is opened. For this sole reason the principal maker of artificial soda and other sparkling waters in Frankfort uses carbonic-acid gas made by treating magnesite with pure sulphuric acid. Magnesite is a natural carbonate of magnesia, which is found in Westphalia as well as among the Apennines in Italy, whence it is exported to the United States and other countries. It is rich in carbonic acid, and is generally pure and free from deleterious elements. When used in the manufacture of mineral waters, the magnesite is ground to a fine white meal and put into a strong copper generator, which can be securely closed, and contains a rotary fan, like the "dasher" of a churn, by means of which the contents can be stirred and thoroughly mixed. At the top of the generator is a leaden flask, capable of containing a quantity of sulphuric acid, and connected with the receiver by a tube and cock which, when opened, allows the acid to trickle slowly down and become thoroughly mingled by stirring with the magnesite. The evolution of carbonic-acid gas at once begins. It passes off by its own pressure through a tank of water into the gasometer, which is allowed to fill until the manometer indicates a pressure of 4 atmospheres. This is sufficient to force it into close mechanical combination with the distilled water into which it is injected in the manufacture of soda and other artificial effervescent waters. Westphalian magnesite is so pure that, when treated with clean sulphuric acid, which costs in Frankfort from $2 to $2.50 per 224 pounds, the gas produced is sufficiently cleansed for any purpose by passing through one washing with water between the generator and gasometer.

3.—ARTIFICIAL CARBONIC ACID.

Carbonic-acid gas is used largely in the manufacture of white lead, sugar, bicarbonate of soda, etc., and as an antiseptic for the preservation of food materials. It is heavier than atmospheric air, and when poured into a vessel, replaces the air and thus expels the oxygen which principally causes fermentation and decay. Fruits and eggs kept in casks or cases injected with dioxide gas to the exclusion of air remain fresh and unchanged for a long period.

For all such purposes a high standard of purity is not essential, and the gas is therefore generally made of the most convenient material and by the cheapest method. When limestone is used, it is roasted in a conical stack or cupola with coke, which should be as nearly as possible free from sulphur. For this purpose ovens of several forms are used, but they are all simple and similar in principle. The ovens most used in Germany are those of the Kindler and Walkhoff types, but improvements of more or less value have been made in recent years and patented by Luhrmann, Knoup, and by Messrs. Howard & Lane, of England. There is also a process invented by Meschelink & Lionnet, for making carbon dioxide gas by passing steam through heated limestone. In the manufacture of white lead at Clichy, near Paris, the material used is chalk, in the form of spanish whiting, mixed with coke and burned in a Thenard oven, the working proportions being 1 measure of coke to 2½ measures of chalk. In all these processes, the carbonic acid is expelled by heat in the form of gas, leaving as a residue caustic lime.

The acid processes are equally simple and well known. The material required is any mineral carbonate that is free from bitumen or sulphur. This material may be magnesite, dolomite, marble, chalk, limestone, or calcareous spar. Chalk and magnesite work best with sulphuric acid, but marble, limestone, and dolomite may be more advantageously treated with muriatic acid, which is about half as costly as sulphuric. Pure marble contains 44 per cent of carbonic acid, and requires for its decomposition 2.28 units of muriatic acid at 28° Baumé strength to each unit of marble. One pound of marble, thoroughly decomposed, yields about 26 gallons of carbonic-acid gas at normal density and leaves as a residue chloride of lime, the transformation being as follows: $CaCO_3+2HCl=CaCl_2+H_2O+CO_2$. When chalk is decomposed with sulphuric acid, the process is $CaCO_3+H_2SO_4=CaSO_4+H_2O+CO_2$, the residue being sulphate of lime. In all these processes, it is simply required that the mineral carbonate shall be pulverized and mixed thoroughly in a closed generator with the acid, which, in order to facilitate the mixing, is diluted with several volumes of water.

The condensation of carbonic-acid gas to liquid form is a mechanical process, and involves no technical difficulties. At a temperature of 5° C. below freezing, carbonic-acid gas condenses to fluid under a pressure of 30.84 atmospheres. When the temperature is raised to 15° C. above freezing, a pressure of 52 atmospheres is required, and at 25°, 66 atmospheres pressure is necessary to produce the same result. The limit, or "critical point," above which carbon dioxide gas can not be condensed by any pressure, is 30.32° Celsius.

The condensation plant ordinarily employed is a series of graduated force pumps, worked by steam or other motive power, and placed, tandem, between a corresponding series of receivers, which, like the pumps, diminish in size in proportion to the decreasing volume of the gas after each successive compression. In practice, the temperature is maintained at about freezing, and at this point the gas, compressed by passing successively through the series of pumps and reservoirs, condenses to fluid under a pressure of about 36 atmospheres, and thus, having been reduced in bulk four hundred and thirty fold from its gaseous form, it is bottled in steel and becomes a cheap, safe, and easily manageable article of merchandise.

FRANK H. MASON,
Consul-General.

FRANKFORT, *April 20, 1896.*

TARIFF OF BERMUDA.*

JULY 1, 1896, TO JUNE 30, 1897, INCLUSIVE.

		£	s.	d.
Arrowroot:				
Unmanufactured	per 100 pounds	0	10	0
Manufactured	per pound	0	0	6
Alcohol, arrack, brandy, cordials, gin, peppermint water, shrub, whisky, and rum, per gallon		0	5	0
Wines of all kinds	20 per cent ad valorem.			
Malt liquor, cider, and perry	per hogshead	1	0	0
In bottles, commonly called quart bottles	per dozen	0	1	0
Cigars	per thousand	0	15	0
Or, at the option of the importer	per pound	0	1	6
Cigarettes	do	0	1	6
Tobacco (other than cigars and cigarettes) and snuff	do	0	0	6
Cows, calves, heifers, and oxen	per head	0	4	0
Bicycles (with wheels of not less than 18 inches in diameter)	each	0	10	0
Horses	per head	1	0	0

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*Transmitted (June 25, 1896) by Commercial Agent Willett, of St. George's.

And in all cases where such duties are imposed according to any specific quantity, the same shall be deemed to apply in the same proportion to any greater or less quantity.

Irrespective of the foregoing duty on spirits, there shall be levied and paid into the public treasury, on each and every cask or other package landed within these islands containing alcohol, arrack, brandy, cordial, gin, peppermint water, rum, shrub, or whisky, in bulk, on the landing thereof in these islands, the sum of 3d., and on the spirits herein enumerated no drawback of the tax hereby imposed on the package shall be allowed.

On all goods imported, except articles subject to specific duties and those enumerated in the following table of exemptions and such books as, under the act entitled "an act to regulate the importation of books and to protect the British author," are subject to an import duty of 15 per cent, 5 per cent ad valorem.

Table of exemptions.

Animals and goods imported on account of the public of these islands by any public officer or committee, being the property of the public or purchased at the public expense; baggage, consisting of apparel and professional apparatus of passengers; books, not reprints of British publications; bullion, coals, coin, electric cable and electric-cable machinery and apparatus imported in these island (by any company or person or persons under contract with Her Majesty's Government) with the view of establishing and maintaining telegraphic communications with places beyond the sea; horses and other beasts and provisions and stores of every description imported for the use of Her Majesty's land and sea forces, being the property of Her Majesty, on satisfactory proof of their being the property of Her Majesty, and horses of military officers brought into these islands as a necessary part of their military equipment, subject to all conditions, provisions, and regulations contained in any act passed or to be passed by the legislature of these islands; provided that no military officer, during the whole term of his service in these islands, shall be allowed to import free of import duty more horses than shall be shown by the certificate of the officer commanding Her Majesty's troops or other proper officer to be required by such officer importing such horses under Her Majesty's military regulations as a necessary part of his military equipment; ice; official supplies imported for the use of the consulates of any foreign countries which admit similar supplies for the use of Her Majesty's consulates free of duty; paintings, engravings, photographs, and sculpture (whether monumental or otherwise); personal effects of inhabitants of these islands dying abroad and not intended for sale; specimens of natural history, trees, plants, bulbs, and shrubs for planting.

Uniforms, naval and military, that is to say, the special dress of naval and military officers, indicating their rank and profession and by which they are distinguished from civilians, including the necessary arms, badges, decorations, and ornaments proper thereto, and imported by naval and military officers for their own personal use.

Vessels, dredgers, boats, machinery, tools, plant and materials imported into these islands by any contractor or other person for surveying or improving any of the ship channels under any contract or agreement with the Government of these islands.

One-fifth, or 20 per cent, of all import duties payable at one and the same time, by one and the same importer or consignee, on any goods arriving by one and the same vessel, or payable by any person on any goods taken out of any bonded warehouse at one and the same time shall be paid in lawful gold coin, provided that such duties amount to £5 or any multiple of that sum; but such gold payments shall not be required except on amounts of £5 or multiples thereof.

Personal property sold by auction (property sold under process of any court or under the order of any judge as such, or belonging to estates of deceased persons, or farm products of this colony only excepted), subject to a duty of 2½ per cent, less 2½ per cent on such duty to auctioneers for collecting and paying the same.

Persons exporting goods are entitled, on certain conditions, to the whole of the duty paid on the importation thereof when the duty on the said goods amounts to £2.

Drawbacks of duties are allowed for goods sold to and becoming the property of Her Majesty's Government.

The auctioneers' bonds expire on the 30th of June, and must then be renewed; auctioneers to make their returns quarterly, within ten days after the last days of March, June, September, and December, respectively.

Schedule of light tolls.

(*a*) On every vessel carrying Her Majesty's mails under any contract with the Imperial or Colonial Government, 3 farthings per ton net register measurement.

(*b*) On every vessel exclusively employed under any contract with Her Majesty's Government in laying, repairing, or maintaining any electric cable, or on any service connected therewith, 3 farthings per ton net register measurement.

(*c*) On every vessel calling at the islands for orders only, or for coals and provisions for the ship's use only, and not taking on board or discharging any cargo, or landing or taking on board any passenger, except when compelled to do so under any quarantine act or the imperial merchant shipping act, or by reason of sickness on board, 1 halfpenny per ton net register measurement.

(*d*) On every steamer calling at these islands periodically and not less often than once a month, or belong to lines of steamers calling here periodically and not less often than once a month, to land or take on board passengers and freight, 2d. per ton net register measurement.

(*e*) On all other vessels not exempted by law, 3d. per ton net register measurement.

The light tolls on any one vessel shall not, on any arrival in these islands, exceed £25. Transports and storeships actually and wholly employed both on the voyage inward and on the voyage outward, without interruption, in Her Majesty's service, are exempted from this duty.

JAMES TUCKER,
Receiver-General.

RECEIVER-GENERAL'S OFFICE, *June 22, 1896.*

DUBLIN ELECTRIC TRAMWAYS.

The first tramway line in Ireland operated by modern methods of electric traction was opened to the public May 9, 1896, at Dublin. The event has an importance of more than passing interest for both Ireland and the United States—for Ireland, as marking the introduction of electricity as the motor power for street railways; for the United States, as promising a market of more or less magnitude for electric-railway supplies. Previous to the inauguration of the Dublin Electric Tramways Line, there were no electric railways in Ireland, except one or two of early construction upon methods now antiquated, and these have served to rather deepen a prejudice, already strong, among the people of Ireland against electric traction.

The Dublin Southern District Tramways Company obtained from Parliament, in 1893, after overcoming much opposition, privilege to substitute electric for horse power upon their suburban line extending from Haddington Road, Dublin, to Dalkey, a southern suburb. The work of reequipment was begun in February, 1895, but, due to disputes which arose, was soon after suspended until the latter part of May, 1895, and, due to delays of various kinds, was not opened for the conveyance of the public until May 9, 1896. Under the horse-car system, the line was divided into three sections, and a passenger in going from Haddington Road to Dalkey, a distance of 8 miles, was compelled to change cars three times and pay a fare of 8d. Under the present electric system, the journey is continuous and unbroken, and the fare is 4d. The new line is also divided into four sections of nearly equal lengths, the fare for each of which is 1d., thus giving a street-car fare on an average of about 1 cent per mile.

The equipment is first class throughout the entire line. It is double tracked throughout the entire length, except for short distances in one of the more narrow thoroughfares. The gauge is 5 feet 3 inches. The rails, of the girder type, weigh 75 pounds per yard, and are joined by fish plates, weighing 25½ pounds per pair, and bound together by steel ties at distances of 7 feet, and resting upon a bed of concrete 6 inches thick, which extends over the entire width of the street. The street is then paved with granite sets bedded in sand. The overhead construction is the span trolley system, the supporting standards being of hollow steel tubes in three sections of different diameters. They were furnished by a Philadelphia house. The trolley wires, double throughout the entire line, are of hard, drawn copper, 0.325 inch in diameter, and divided into half-mile sections by insulators, where the two ends are brought into switch boxes, and thereby joined to feeders, by which the power is evenly distributed throughout the line. Junction boxes with switches are provided for cutting out section or trolley line, or feeder, the feeder being constructed upon what is known as the "three-phase" system.

The generators consist of the central pôwer station, situated near the Haddington Road terminus, and two substations, or supply stations, the one at the Dalkey terminus and the other at Blackrock, about midway of the system. The substations were necessitated by economical reasons because of the location of the principal generating station at the one terminus instead of in the center of the system. The location of the central station was not only determined by the company's possession of property at that point available for use, but also from the fact that the company hoped to greatly extend their system from this point as a center. The distribution of power is described by the company as follows: A continuous current of 500 volts for working the lines adjacent to the principal power station, and a current of 2,500 volts carried on the "three-phase" system to the two substations, where the electrical power is transformed into a continuous 500-volt current, each substation delivering energy to the line in proportion to the number of cars in operation upon any section. A board of trade regulation makes it incumbent upon the company that in the return current the difference in the potential shall not be greater than 7 volts between the extreme ends of the line. This regulation is to protect gas and water pipes from electrolysis as far as possible.

In summing up the advantages of the plans adopted, the company says: The number of cars may be largely increased and operated without exceeding board of trade regulations; for the "three-phase" transmission, only three-fourths the weight of copper wire is required, compared with that required for a simple alternating-current system of the same voltage over the whole line. Motor generators may be started from either the 500 volts continuous or the 2,500 volt "three-phase" mains, and the power delivered to each substation can be maintained at the maximum efficiency. A further advantage lies in the comparative small amount of copper required in the feeders supplying current to the trolley wires. Restriction of voltage drop in the earth results in the current returning to the generating source through the rails. With a single point of distribution only, all the earth currents would be toward the power station; but with several points of distribution, the return currents, at any point along the line, may be in opposite directions at different times, according to the distribution of the load; hence, with the same difference of potential in the earth return as in the first case, the possibility of trouble or damage from electrolysis is greatly diminished.

The fish plates joining the ends of the rails are supposed to be nonconductors, and the rails are brought into contact by what is known as the "Chicago rail bond," and here again the current density per square inch of contact between the bond and the rail has been made low to prevent any electrolytic action.

The central power house is equipped with two 500-volt continuous railway generators, driven by four engines, each capable of giving continuously 150 B. horsepower. The carrying equipment consists of a motor car with a capacity to seat fifty-three passengers, drawing a trailer having a seating capacity of forty-six. The motors are the "G. E. 800," as supplied by the G. E. Company, of Schenectady, N. Y. The service is now every five minutes, and it is expected to shortly increase the service to every two minutes.

As pointed out in the first paragraph, the importance of this line to the United States lies in the fact that its introduction is likely, in the near future, to result in extension of electric traction to the tramways in general in Ireland. The construction of the Dublin Electric Tramways Line was carried out by the British Thomson-Houston Company, but the electric supplies were, I believe, drawn in the chief part from the United States, though I believe this company owns the American patents for the United Kingdom, and are endeavoring to reach a position to manufacture supplies sufficient for their own contracts. The Dublin Electric Tramways Company are now before Parliament with a bill to enable them to continue their line from Haddington Road, in the southern boundary of the city, to O'Connell's Bridge, Sackville Street, the tram center of the city, and to construct two extensive suburban lines starting from the central power station. This bill will probably be granted despite a powerful opposition. Also, the Dublin United Tramways Company, which has a monopoly of the street-railway traffic in Dublin, made an effort to secure from the Dublin municipal corporation consent to proceed in Parliament with a bill to substitute electric traction for horse power upon their many miles of street railway. At the same time, the Electric Tram Company endeavored to secure from the corporation a franchise for extensive development of their system in the city proper; but neither company was successful for the present, except that the corporation gave consent for the Electric Company to proceed with a bill to enable it to extend its line from Haddington Road to the tram center of the city. The action of the corporation in refusing assent to general electric franchise can not be regarded as final, as the consideration of the question was postponed for a few months only. This action was doubtless due to consideration on the part of the municipal corporation for the very strong antielectric-tram agitation stirred up in the city by various interests.

It would be hard for one who was not present to conceive the great opposition which was developed by the proposition brought before the municipal corporation to allow electricity to be introduced upon the tramways of the city. Workingmen's clubs were organized against the measure, and many meetings were held to protest against the proposed progress. "Sandwich men" appeared in the streets bearing huge placards predicting ruin for Dublin if electricity was introduced. This placard asserted that in the event of the introduction of electric traction into the city the trades of "cab and car men, coach builders, carriage smiths, carriage painters, horseshoers, harness makers, wagon makers, brush makers, coachmen, grooms, coal porters, corn porters, van drivers, carriers, corporation employees, tram stablemen, horse clippers, horse breeders, farmers, and all farm produce" would utterly disappear. One could imagine he was transported to the first half of the century and was in the midst of the antimachinery opposition. The Dublin papers, for the most part, were opposed to the proposition and conjured up bogies even more direful, alleging that the use of electricity upon tramways was in the experimental stage.

Results obtained in America and other countries with electricity are not credited here by the opposition to electric traction, or, if credited, they do not deem that it follows that the electric force when applied in Ireland would give similar results.

In the short time, however, in which the electric line from Dublin to Dalkey has been operating, prejudices seem to be rapidly dying out and the tide of opinion turning in favor of electric traction. The electric line is admirably situated for the people to become acquainted with its working. In its 8 miles of length it passes through a continuous series of seaside suburban towns, the district through which the line passes having a population of about 50,000, many of whom are substantial professional and business men in the city. These seaside towns also attract a very large number of the city population of an evening. It is said that in the first four weeks of its operation the electric line carried 400,000 passengers. The excellent equipment of the road, its very careful management, and its very low fares have already removed, in a very large measure, the popular prejudice which existed against electric tramways, and it is to be expected that in the near future electric traction will be welcomed upon the tramways of Dublin.

NEWTON B. ASHBY,
Consul.

DUBLIN, *June 18, 1896.*

DUBLIN ELECTRIC TRAMWAYS—SUPPLEMENTARY.

Contrary to expectations, the committee of Commons rejected the bill of the Dublin Electric Tramways Company by which they were seeking to obtain entrance to the tram center of the city. For a time it seemed that the attempts to improve the city tram service by the extension of the Dublin electric tramways would be completely balked by this action. It now transpires that the Dublin United Tramways Company have purchased the 8 miles of electric tramway, paying £273,000, and it is announced that the electric line will pass under its new management on the 1st of July. This extends the monopoly of the Dublin United Tramways Company over the only competing line. It is announced, however, by the company that their increased powers will be directed toward improving the service, with lower fares. It is further announced that they expect to extend the electric line in accordance with the plans of the late company. It may also be confidently expected that they will endeavor to secure authority to substitute electric traction for horse power on their lines in the city.

NEWTON B. ASHBY,
Consul.

DUBLIN, *June 29, 1896.*

AMERICAN GOODS IN IRELAND.

I have been requested by a local (Belfast) merchant to inform him where he can purchase "mackerel in tins." He tells me they are put up by some house in New York, and he recently has had some inquiry for them. Being unable to give the information, I write to the Department in order that it may disseminate the query through the CONSULAR REPORTS.

In this connection, I would suggest to proprietors of trade journals and kindred publications which have patrons wishing to extend or seeking an export trade, that occasional copies mailed to this consulate will always find their way to local merchants and dealers who might be interested in any part or all of the information such publications contain. Those which are received at present are turned over to the proper parties promptly, and, I trust, often with helpful results.

It happens sometimes that novelties, inventions, and improvements, often illustrated, are explained in these journals, are set forth so attractively that merchants and dealers on this side undertake to handle them. If any be loath to do so, they are sometimes compelled because a more enterprising competitor has recognized their value.

Exporting houses in the United States which have agencies in London, Liverpool, Glasgow, or elsewhere in the Kingdom, should so state in their advertisements, as I find that the retail trade generally prefer to deal with exporters as near home as possible. For instance, if two houses in New

York export the same line of goods, one with an agent or branch house at Liverpool and the other without, other conditions being equal, the former is more likely to get the order. One reason assigned is that the business is more quickly disposed of; another is, if an error or grievance occurs, it can be sooner corrected and relieved.

Exporters dealing in fancy goods, particularly for the table, should keep in mind that the more carefully, tastefully, and daintily they are put up, the more salable they are. It is the wealthier classes who are the consumers mostly of such articles, and if they are inclined to buy they prefer that which is most appetizing. They have a great prejudice against a certain line of fruits and vegetables put up in tins, such as peaches, pears, plums, cherries, corn, pease, beans, etc., and for that reason they will buy continental goods in preference, which are mostly put up in clear glass bottles or jars; perhaps not equal in qualtiy, though a shade higher in price.

Too much attention can not be given to the quality and appearance of the package enveloping food products for the export trade, providing always that the price is not so enhanced as to incline the dealer to favor the goods of continental exporters, which, by their contiguity, have advantages in freight charges, dispatch, etc.

One great desideratum is, that the goods should arrive in excellent condition and be fully up to representation, which, I regret to say, is alleged by merchants and dealers to be, sometimes, the reverse with merchandise coming from the United States. One large grocery firm in this city which handles a great many barrels of imported green apples annually, has informed me that it will not buy apples coming from the United States, if they can be bought elsewhere, because of the deception practiced in the packing of the barrel, and also in its contraction. They now buy nearly all they handle from Canadian exporters.

JAMES B. TANEY,
Consul.

BELFAST, *June 8, 1896.*

NOTES.

The World's Wine Production.—Consul Germain, of Zurich, under date of May 20, 1896, submits the following statistics, compiled from reports submitted at the wine exposition held at Bordeaux in 1895:

The total wine production of the five continents is estimated at 138,000,000 hectoliters (3,671,963,000 gallons). This has been increased by a few million hectoliters during the last few years, in consequence of the decrease of the ravages of the phylloxera, which induced French wine growers to replant their devastated vineyards.

It must be stated, however, that the quality of wines did not improve in the same ratio with the quantity, the new methods of vine culture tending more to increase quantity than improve quality. This is, in part, explained by the fact that for a while it really seemed as if the wine production was too small to meet the demand, hence the increase in the manufacture of artificial wines was phenomenal, but this is now on the decline, since the production of natural wines has proven sufficient to meet the demand.

The investigations which were made have shown that the general extension of vine culture, in countries other than France, did not help to increase the national wealth. It is true that good results were obtained in Spain, Portugal, and Italy during a certain period, when large quantities of wine were exported. But these casual results led people to speculations, which failed in unfavorable years. It is a fact that in Australia and in a few other countries wine making has not proven profitable, and producers have become discouraged. In Australia, the Government had to grant subsidies to encourage growers, while in other countries more profitable branches of agriculture were resorted to.

Ranking in importance as wine-producing countries the different nations stand as follows: (1) France, (2) Italy, (3) Spain, (4) Portugal, (5) Germany, (6) Austria-Hungary, (7) Russia, (8) Switzerland, (9) the Balkan States, (10) Argentine Republic, (11) Chile, (12) United States, (13) Brazil, (14) Australia, (15) Cape Colony.

For a time, there was a possibility of Italy occupying first rank; and this was the case in 1886, when the crop footed up 38,000,000 hectoliters (1,003,846,000 gallons), the crop of France at the same period being only 25,000,000 hectoliters (660,425,000 gallons). Less favorable years for Italy followed, as, for instance, 1889, with 21,000,000 hectoliters, and 1893, with 32,000,000 hectoliters, while the same year showed a yield of 50,000,000 hectoliters (1,320,850,000 gallons) for France, not including its colonies of Algiers and Tunis. In 1894, the Italian crop again yielded 39,000,000 hectoliters (1,030,263,000 gallons).

The exertions of Italy to establish foreign markets for her wines are worthy of mention. Large stocks and technical control stations have been established at Berlin, Vienna, Trieste, Budapest, Zurich, Buenos Ayres, and New York. The control stations are managed by experts under the protection of the Italian Government. They investigate the requirements as to taste, etc., and report regularly to their Government at Rome.

Spain, in spite of her having been very much afflicted by the phylloxera in certain regions, has been able to maintain her wine production on the former scale. That country has made great progress in vine culture. Spain has established a control station at New York. She is constantly replanting the vines that have been destroyed by the phylloxera and the Government is buying land, on which American vines, known to be of great resisting quality, are being planted.

Changes in the Italian Tariff.—According to information transmitted to the Department by Consul-General Jones, of Rome, July 3, 1896, the duties levied upon the following articles have been increased by a decree published in the Gazzetta Officiale of July 1. The following are the new duties, as given by the consul-general:

		Duty.
Barley	per quintal...	$0.77
White indian corn	do......	1.44
Grain not specified	per ton...	2.21
Rice flour	per quintal...	2.12
Oat and barley meal	do......	1.15
Rye flour	do......	1.25
White indian-corn meal	do......	1.83
Meal from other grain, from the chestnut, millet, etc	do......	.60
Linseed and cotton seed	do......	1.35

This new schedule of duties will, it is expected, prevent dishonest speculation, notably the vending of barley mixed with oats and the adulterations of wheat flour by mixing it with white indian-corn meal.

Wine Apparatus Exhibition at Catania.—Under date of June 23 and 26, 1896, Consul Brühl notified the Department that a ministerial decree had been published in the Carriere di Catania announcing an international exhibition of filters for must and wine and apparatus for wine making in warm countries, to be held in that city during the present year. As all applications for exhibition must be in by the 15th of August, and as the foregoing dates were the first on which information in regard to the holding of the exhibition had been made public, Consul Brühl considered it impossible for American manufacturers to be represented, and wrote to the consul-general at Rome requesting that gentleman to get the date on which applications for exhibitions may be made extended in the case of Americans. Consul Brühl's first dispatch was received at the Department on July 10 and given to the press the same day. Consul Brühl transmits a translation of the decree governing the exhibition. Gold and silver medals and diplomas will be awarded by the Government, and a certain number of the exhibits winning premiums will be purchased by the Minister of Agriculture.

Duty on Wines and Liquors in Hawaii.—Under date of June 19, 1896, Consul-General Mills submits the following: I have the honor to inclose herewith a copy of an act, approved June 10, admitting free of duty into this country wines made from the juice of the grape, containing less than 18 per cent of alcohol. Wines of this character were formerly assessed at the rate of 15 cents per gallon. This admits California wine into this country duty free.

I also inclose copy of an act to "increase the duty on spirituous liquors, still wines, and other beverages made from materials other than grape juice." This will increase the duty on Japanese saki from 15 cents per gallon to 60 cents. This act was vetoed by the President, but was passed over his veto.

SECTION 1. That the payment of import duties levied on wines by Chapter XXV of the laws of 1892, being an act entitled "An act to amend Chapter XXVIII of the session laws of 1878, relating to duties," shall be suspended for the term of five years from the 1st day of January, A. D. 1897, in so far as the said act levies a duty upon any wines from the juice of the grape, which wines are of less than 18 per cent of alcoholic strength.

And during the said five years beginning with the said 1st day of January, A. D. 1897, no duties shall be levied, collected, or paid on any wines imported into the Republic of Hawaii made from the juice of the grape, which wines are of less than 18 per cent of alcoholic strength.

SEC. 2. This act shall take effect from the date of its approval.

A New Silk Market in Japan.—Under date of May 25, 1896, Consul Connelly, of Osaka and Hiogo, transmits a translated copy of a letter of the acting governor of Hiogo Ken, calling attention to the establishment of a silk-inspection office at Hiogo by the Japanese Government and to a meeting of silk manufacturers of the great silk-producing districts of Japan, looking to the diverting of the trade from Yokohama to Kobé, as more convenient for transportation, and requesting that the attention of American citizens interested in the silk trade may be directed to such facts. As Yokohama has been the silk market in Japan, there are no Americans at Kobé interested in the silk trade, but as the information contained in the letter of the acting governor must be of importance to citizens of the United States interested in the silk trade, the consul transmits the translated copy of the acting governor's letter above referred to.

[Translation.]

THE ACTING GOVERNOR TO CONSUL CONNELLY.

HIOGO, *May 9, 1896.*

SIR: The largest silk-producing districts in Japan are located in Kwanto, the products of which have made Yokohama the largest port of silk trade as at present. The silk products in Kwansai districts show great progress during the past few years and silk factories are increasing year by year, the value of these products amounting to a considerable sum. There being, however, a very small number of natives and foreigners engaged in the silk trade at this port, all the silk produced in Kwansai districts is sent to Yokohama, through this port, which causes great inconvenience and loss. At the great meeting of silk manufacturers of Kwansai and Kiushu districts, recently held at this port, it was decided that a silk market be opened at Kobé, the Government having recently established a silk-inspection office in this port, with the view that all silk produced in Kwansai districts and farther west be brought to the Kobé market, in order that the inconvenience of transporting to Yokohama may be avoided, and to make the silk one of the principal articles of export from Kobé. As it is of great importance that the dealers in silk abroad be acquainted with the subject above referred to, I shall esteem it a great favor if you acquaint the same to all American citizens interested in the silk trade.

I have, etc

CHIKANORI AKIYAMA,
Acting Chiji of Hiogo Ken.

An American Pulp Mill in Sault Ste. Marie.—Under date of June 29, 1896, Commercial Agent McCall informs the Department that a company composed of New York and Philadelphia capitalists has established a pulp mill in Sault Ste. Marie under favorable auspices. The capacity of the mill is about 100 tons of dry pulp per day, and the output is 70 tons per day. The company is favored with an unlimited water supply and a large amount of spruce timber, conveniently situated. It is added by Consul McCall that the company is about to establish a large paper mill also. The company has obtained special privileges from the Ontario Government in regard to cutting timber.

Anticipated Results of the Sicilian Sulphur Trust.—Consul Caughy, of Messina, under date of June 20, transmitting to the Department a translation of the chief clauses of the proposed sulphur trust of Sicily—fully covered by the report of Consul Brühl, of Catania, printed in CONSULAR REPORTS No. 190 (July, 1896)—writes as follows concerning the results, generally and locally, which are likely to ensue from the perfection of this combination, which the consul recognizes as already virtually consummated:

It means an enormous advance in price, and will materially affect American interests, the exports to the United States averaging about 100,000 tons annually. The first result will be that we will turn our attention, much more than at present, to the pyrites mines of Spain, although, if reports be true, we can not long depend upon these, for it is already hinted that the same syndicate have their eyes upon those mines also, overtures having already been made to Sir Charles Tennant, president of the Tharses mines, the largest mines in that country.

Those comprising the Sicilian sulphur syndicate are men of unlimited wealth, who will profit by the experience of the French Copper Company, and will not attempt to make a corner unless they are absolutely certain of controlling so great a portion of the available supply that the prices they fix must prevail and no danger can exist of a break in the market.

The formation of this trust should give additional impetus to the advance made by us in the development of our own mines, those of Louisiana, for instance, where the process has, so it is reported here, long since passed the experimental stage. The existence of this trust will, it is predicted, in a short time, place the price of Sicilian sulphur at the highest figure it has ever touched, and if there ever was a time for profitable trade in the American product, as opposed to the foreign product, that time is the present.

Those who are well versed in the political economy of this island look upon the iron-bound clauses of this contract as a scourge which, in a little time, will excite the laboring element of the mines to discontent and disorder. Wages are now so low and life so deplorable in the sulphur districts that body and soul could not hold together upon less, and a reduction is bound to come, either in the wages per diem or in the number of days of labor per week. Famishing wives and children make outlaws of the most law abiding, and the result will be that this island, the garden spot of Italy, just recovering from the reputation for insecurity under which it so long labored, will again fall under the ban, and the thousands of tourists who, for several years, have visited her resorts and added so much to the support of her people will leave her severely alone.

Under date of June 17, 1896, Consul Seymour, of Palermo, transmits the following statistics covering the exports of Sicilian sulphur to the United States:

Period.	1896.	1895.
	Tons.	*Tons.*
Month of April	14,970	5,179
Three months ended April 30	56,305	24,119
Ten months ended April 30	129,562	82,403
Stock on hand April 30	137,381	112,000

American Goods in Belgium.—In his annual report for 1895 upon the commerce and industries of his district, to be printed in COMMERCIAL RELATIONS for 1895-96, Consul Morris, of Ghent, has the following concerning the introduction of American products:

> I can not report any satisfactory improvement during the past year. The reason, in my opinion, is the indifference of the great majority of American merchants and manufacturers to foreign markets. There are some few of our business houses which try to make sales abroad, but even their efforts are spasmodic and ill directed. The consular corps receives much criticism in our public press for its failure to assist the introduction of our goods. Before aid can, however, be given, there must be somebody who asks it. I speak only for this consular district. There is an important market here for many articles of our manufacture. What can be sold here has been repeatedly indicated in numerous consular reports forwarded by the incumbents of this office during the past fifteen years; still the actual sale of American products remains small. Inquiries at this consulate are frequent, but not so numerous as they should be. Even in such cases, correspondence ensues with a prospective purchaser, and, generally speaking, the bargain can not be closed, because the American is not ready to modify his terms to the

wishes of his possible customer. Only in one way can trade be increased in this district, and the same is true as regards the Continent, viz, terms must be to the satisfaction of the purchaser, such as he can obtain elsewhere.

As an example of the inability of a consul to increase trade without the cooperation of American manufacturers and exporters, I give the following experience: In April, 1895, the writer forwarded, by request of the Department of Agriculture, a fifty-page printed report on the opportunity to introduce American agricultural products into this consular district. This report was published, in connection with other matter, in the Bulletin known as "Markets of the World, Belgium No. 6." Some thirty odd articles were included in this review, and, in conclusion, correspondence was solicited, with the promise to refer all letters to interested parties. Not a single reply thereto has been received at this consulate.

Such an experience seems to me to justify the statement that individual American houses are not availing themselves of all the opportunities for export trade.

Once more, I would insist that only by cooperative and organized effort can trade be obtained in foreign countries. Ordinarily our business men have not the tenacity required. They are too easily discouraged, because they expect immediate results. As a matter of course, only the largest houses can sustain an unprofitable introductory campaign for any length of time. Hence for the smaller and greater number of our industries, combination is the only possible method of success.

To such efforts the consular corps could, and would, in my judgment, render good and efficient service. So many of its endeavors, fruitless and unappreciated at present, would be found to be adequate and would bear logical results.

In justice to our exporters, attention should be drawn to the fact that the publications of the Department of Agriculture are read chiefly by the farmers and producers, who are never exporters. Had the information given by Consul Morris, of Ghent, been published in the CONSULAR REPORTS, he would probably not have to complain of indifference on the part of our exporters. A good illustration of this is given in CONSULAR REPORTS No. 190 (July, 1896), where Consul Doederlein, of Leipsic, in a report on the "Electric plow in Germany," in which he forgot to give the manufacturers' address, says that he received communications concerning the plow and requesting the omitted address, "not only from all parts of the United States, but from England, Australasia, and Africa." We feel confident that our exporters of agricultural products are as anxious for trade openings as are our exporters and manufacturers in general, and that the complaint of Consul Morris as to their indifference was mainly due to the fact that they were unaware of his efforts in their behalf or of the trade opportunities which exist in Ghent for agricultural products.

American Hardware in Belgium.—Consul Morris, of Ghent, in his annual report for 1895 on the trade and industries of his consular district, has the following reference to American hardware:

One of the Ghent dealers in hardware calls my attention to the difficulties of purchasing in the United States. The employment of custom agents by American firms increases the cost of American manufactures to such an extent as to render their introduction into Belgium very difficult. My informant, for instance, gives me an illustration, in the purchase of a package containing goods worth $7.50 on which he was obliged to pay charges amounting to $7.60.

Farming Implements in Belgium.—Consul Morris, of Ghent, notes that the Agricultural Society of East Flanders has gratuitously furnished to each of its local associated societies one farming machine, or more, according to the importance of the society, with the object of encouraging farming by machinery. The members of each local society have the privilege of using these farming implements without expense. For some reason, however, the Flemish farmers do not seem to appreciate the advantages of machinery, but prefer to continue their old hand-labor method.

The Jute Industry of Europe and the Orient.—Consul Morris, of Ghent, under date of June 26, 1896, gives the following valuable excerpt regarding the jute industry:

The monthly bulletin of the French Chamber of Commerce, recently published an article, of which a translation follows, as being indicative of the condition of the European jute industry. It further fully explains the competition of the Orient.

Much attention has been devoted for some time past both in France and in England to the future of the jute industry. It is well known that the jute grown in the extreme East is used in the manufacture of bagging, which manufacture is very important in western Europe. In the United Kingdom, Dundee is the center of this trade; in France, it is especially located around Dunkirk, where there are ten large establishments, employing about 10,000 hands, and manufacturing annually something like 2,000 tons of raw material. The jute industry in Belgium is also considerable, as it manufactures from 12,000 to 15,000 tons of raw material per year. It is located exclusively in the Flanders, especially at Ghent, Alost, Termonde, Eecloo, Zele, Lokeren, etc. The export trade is considerable. The black spot on the horizon of this European industry is the increasing competition of the extreme Orient. Important jute spinning and weaving establishments have been fitted out in Bengal and in Japan. Another factory has been started in the diminutive French colony of Chandernagore. These manufacturers not only supply the Indies, but commence to invade Europe with their products. English trade journals have frequently discussed the danger which threatens the Dundee industry, and a member of the Dunkirk Chamber of Commerce has just uttered a cry of alarm in the name of the French jute industry. The existence of this industry is threatened, as he says, by the imminent invasion of products manufactured in the Indies, which are not satisfied as formerly to simply cultivate the raw material to be sent to Europe for manufacture. With an initiative emboldened by success, enterprising manufacturers have established themselves around Calcutta, have procured the best possible machinery from Scotland and have succeeded in manufacturing below our cost prices, taking advantage of the privileged situation of a country where there are no burdens or any of the exigencies of an advanced civilization, where not only they find the raw material at hand, but also labor at extremely low wages, and where the laboring classes are satisfied to live on a few cents' worth of rice per day. What such conditions must produce we have already explained. Manufacturing in the Indies has greatly developed and must increase. Europe can not any longer sell to the natives, who are supplying themselves. Exportation, even, has begun, is winning new markets, chasing and pushing back Dundee products, and expects soon to be overpowering its European rivals,

Purchase of the Island of Anticosti.—Under date of July 2, 1896, Consul Dickson, of Gaspé Basin, reports the purchase of the island of Anticosti by the great chocolate manufacturer, M. Menier, of France.

> Two attempts have been made within the last twenty-five years to colonize this island—the first by Colonel Forsyth, an Englishman, which involved himself and many of his friends in ruin; the second, by Dr. Stockwell, another Englishman, which was also a bad speculation and terminated in the sale of the island last year to M. Menier, who intends to hold it as a game reserve and to stock it with animals for the chase and also fur bearing animals; in fact, to make it a hunter's paradise. At the same time, M. Menier has an eye to business and intends to colonize the island and turn to account the large forest of good timber which a survey he caused to be made has brought to light on the northern side of the island. It is said that M. Menier has a taste for founding colonies, as he has already two which pay a fair interest on his investment. These colonies are in South America and Algeria.
>
> The island of Anticosti has been used for years as a fishing place by the cod fishermen from Gaspé Basin, Douglastown, and other places on the north shore of the Gulf of St. Lawrence. These people have now been forbidden to fish on the island, unless they are willing to pay fees to M. Menier, which are large enough to be practically prohibitory. In addition to this, M. Menier has ordered out of the 3-mile limit a Nova Scotia fishing schooner, upon the ground that he bought the 3-mile limit with the island.
>
> Commander William Wakeham, of the Dominion steamer *La Canadienne*, informs me that he has just received orders from the Minister of Marine at Ottawa to proceed to Anticosti and make an official inquiry into the matter.

Steam Coast Navigation in Venezuela.—Under date of June 14, 1896, Consul Plumacher, of Maracaibo, transmits a Spanish copy and a translation thereof of a contract entered into with the Venezuelan Government by Mr. Diego E. Campbell for the running of a line of small steamships on the east and leeward coasts of La Guayra, as far as Cuspa and Puerto Cabello, in such a way that each vessel will make a trip from La Guayra to one of these ports at least every fifteen days, having the privilege to run as far east as Cape Codera, and allowing each vessel to go monthly to Guanta for a supply of coal. Consul Plumacher says that this line will greatly benefit the district covered by the itinerary, and is another step by the Government to facilitate traffic and mail service with the minor ports; at the same time, it may help to break up the smuggling from the islands of Curaçao and Trinidad to the coast of Venezuela.

Horticultural Exhibition at Hamburg.—Under date of July 6, 1896, Consul Robertson transmits to the Department copies, in English, of the prospectus of the General Horticultural Exhibition to be held in Hamburg from May to September, 1897. The introduction to this prospectus is as follows:

> The Horticultural Society of Hamburg, Altona, and surrounding districts, having planned for some time a horticultural exhibition for the celebration of their sixtieth anniversary in

1897, a committee was constituted on December 16, 1895, at the society's suggestion, to prepare and take charge of the General Horticultural Exhibition in Hamburg, 1897.

His munificence, the burgomaster of Hamburg, Dr. J. G. Mönckeberg, has accepted the presidency of this committee. Hamburg citizens have raised a guaranty fund amounting to 500,000 marks, thus securing the undertaking.

The free city of Hamburg has placed the beautiful park between the Holsten- and Millern-Gate, situated in the center of the city, at the disposal of the committee, and further assistance from the authorities may be relied on with certainty.

The exhibition will, by its continuing open during the entire summer of 1897, its numerous competitions, by the exceedingly large number of medals and cash premiums, and by the variety of objects admitted, be the most comprehensive and the most important show that has ever taken place.

The exhibition will represent every branch of horticulture, arboriculture, and floriculture, and will be open to every gardener and friend of horticulture, without regard to nationality. Industrials, merchants, and artists who manipulate products of horticulture or whose manufactures or preparations are in any relation to horticulture are also invited.

The committee proposes: (1) A permanent exhibition out of doors and under cover from the beginning of May, 1897, to the end of September, 1897; (2) a spring exhibition, from May 1 until May 7, 1897; (3) a special exhibition of plants, flowers, and vegetables, from May 30 until June 3, 1897; (4) a special exhibition of plants, flowers, and shrubs, from July 2 until July 6, 1897; (5) a special exhibition of plants, flowers, and fruits of the season, from July 30 until August 3, 1897; (6) a general autumn exhibition, from August 27 until September 5, 1897; (7) a general fruit exhibition, from September 17 until September 30, 1897.

In addition to those offered for the special competitions hereafter scheduled, other prizes will be awarded for flowers, fruit, and vegetables, which, at the time of exhibition, are at full growth and maturity.

The committee will do all in their power to assist exhibitors, give all possible facilities to them, and hope that all concerned will meet the committee in the most liberal spirit.

The following steamship firms have already granted free transportation to and from the exhibition for all exhibition goods and a 50 per cent reduction of the passage price for attendants that may have to go along with perishable plants, this latter concession subject to special arrangements: Hamburg-American Packet Company (North America), Union Line (New York), Hamburg-South American Steamship Company (east coast of South America), Hamburg-Pacific Steamship Company (west coast of South America), German Steamship Company Kosmos (west coast of South America), German Steamship Company, Kingsin Line (Japan, China), German East Africa Line, Woermann Line (West Africa), German Australian Steamship Company, Hamburg-Calcutta Line, De Freitas & Co. (Brazil and Mediterranean), Rob. M. Sloman & Co. (Mediterranean), German Levant Line (Mediterranean, Levant), Glaefcke & Hennings (Levant, Manchester, West Hartlepool), A. Kirsten's Line (London), L. F. Mathies & Co. (Sweden, Baltic, Finland), North German Lloyd, Bremen (North and South America, East Asia, Australia), Union Steamship Company, England.

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Consular officer reporting.	Date.	Subject.	Department to which referred.
E. Schneegans, Saigon	May 30, 1896	Rice	Department of Agriculture.
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INDEX.

VOL. LI—NOS. 188, 189, 190, AND 191.

Absinthe, export of Basle, 518.
Africa, British Central, new tariff, 527.
Africa, South, and Mozambique trade, 137.
Africa, Southeast, development, 127.
Africa, West, French vs. United States trade, 525.
Agricultural bounties in British colonies, 361.
Agricultural produce, Ireland, prices, 523.
Agricultural products, Japan, 2.
Air, liquid, industrial use, 211.
Almeria:
  Imports, 53.
  Railways, 53.
  Trade, 52.
Almonds, exports of, to United States from Malaga, 50.
American bicycles, Germany, 325.
American citizens and interests in Samoa, 724.
American competition, fears of, Germany, 162.
American cotton yarns, Germany, 184.
American goods in Belgium, 774.
American goods in Ireland, 768.
American hardware in Belgium, 775.
American horses in Germany, 228.
American horses in Ireland, 522.
American iron ore in Germany, 203.
American kerosene, decline of trade in Amoy, 140.
American labels on canned horse meat, Europe, 588.
American leather manufactures in England, 144.
American machinery, Ireland, 524.
American manufactures in Japan, 15.
American meats, German criticism, 182.
American pulp mill in Sault Ste. Marie, 773.
American shoes for Germany, 508.
American trade methods in Germany, 164.
American trade, New Caledonia, 592.
American trade, publications beneficial to, Germany, 356.
American trade with Haiti, 150.
American trade via Manchester Ship Canal, 563.
American vs. European interests in South America, 91.
American vs. German trade methods, 166.
Americans, railroad concession to, in Korea, 358.
Amoy, decline of American kerosene trade, 140.
Angora goats and the mohair trade, 141.
Anticosti Island, purchase of, 777.
Antidiphtheritic serum as a preventive, 351.
Antidiptheritic serum, dangerous, 150.
Antigua, tariff changes, 117.
Apples in Germany, 224.
Arabia, pearl fisheries, 623.
Archæological explorations, Mexico, 585.
Argentine Republic:
  Flax and flaxseed, 611.
  Linseed oil, 613.
  Production of sugar, 369.
Artificial silk:
  England, 500.
  France, 499.
Asia, eastern, trade development, 336.
Auer-Welsbach patents and monazite in Germany, 242.
Australia:
  Australian colony in Paraguay, 365.
  Electric lighting of railway trains, 312.
  Melbourne mint, receipts of gold, 309.
  Newcastle as a manufacturing center, 307.
  Newcastle, coal mines and coal trade, 305.
  Newcastle, electric lighting, 304.
  Newcastle, free-trade policy, 308.

Australia—Continued.
  Newcastle harbor, 303.
  Newcastle, income and land taxes, 308.
  Newcastle, industries and trade, 303.
  Newcastle, meat and other exports, 307.
  Newcastle, population, 305.
  Newcastle, wool trade, 307.
  New South Wales, fiscal changes, 293.
  New South Wales wool (1895), 292.
  Treatment of gold ores, 309.
  Wool exports, 288.
  Wool industry, fiscal changes, industries, and trade of Newcastle, 287.
  Wool production, 287.
Australia and Torres Straits, pearl fisheries, 624.
Austria-Hungary:
  Cane vs. beet-root sugar, 257.
  Commerce and industries, 251.
  Currency, 259.
  Fensterpappe, 608.
  Horned-cattle exports, 256.
  Hornglas, 609.
  Increased exports to United States, 248.
  Jute imports, 255.
  Naphtha joint-stock company, 257.
  Prague pharmaceutical exhibition, 349.
  Regulations as to imported cattle, 145.
  Scythe industry, 259.
  Stave exports, 251.
  Sugar trade, 252.
  Trade with United States, 249.
  Transylvania, gold production, 257.
  Use of tectorium, 606.
  Vienna jubilee exhibition, 159.

Bagdad, pearl market, 653, 654.
Bahia:
  Coal, 388.
  Copper, 385.
  Diamonds, 387.
  Granite and porphyry, 386.
  Graphite, 386.
  Iron, 385.
  Kaolin and feldspar, 386.
  Lead, 385.
  Lime, 386.
  Manganese, 385.
  Minerals, mining, etc., 384.
  Monazite, 386.
  Quicksilver, 385.
  Silver, 385.
  Zinc, 385.
Banana shipments from Jamaica to England, 148.
Bangkok, how to reach, 25.
Bank, Imperial, Germany, 236.
Banking and foreign trade, Japan, 3. .
Banking law, Mexico, 395.
Banks and newspapers, Siam, 25.
Banks, savings, Saxony, 238.
Barranquilla, port facilities, 379.
Basle:
  Export of absinthe, 518.
  Export of colors and chemicals, 517.
  Export of hides and skins, 518.
  Export of silk goods, 516.
  Export of spun waste silk, 518.
  Exports, 516.
Baths for miners, Germany, 201.
Bavaria, farm indebtedness, 180.
Bean raising, Ontario, 86.
Beet sugar:
  Mexico, 410.
  Production, Germany, 192.
  Returns, Germany, 195.
  Russia, 284.
Belgium:
  American goods, 774.
  American hardware, 775.
  Brussels exposition (1897), 135.
  Farming implements, 776.
  Labor, 314.
  New tariff on tobacco, 356.
Berlin treaty and Samoa, 656.
Berlin's industrial exhibition, 109.
Berlin's trade and industrial fairs, 110.
Bermuda:
  Hamilton, harbor improvement, 147.
  St. George's, port charges, 481.
  Tariff, 762.
Berne, exports, 520.
Bicycle, new Swiss, 332.
Bicycles:
  American, Germany, 325.
  France, 583.
  Greece, 333.
  Spain, 334.
Bicycles and machinery, market for, Nicaragua, 467.
Bimetallism in Germany, 41.
Birmingham cycle-tube trade, 329.
Bluefields:
  Banana trade, 436.
  Imports and exports, 434.
  Port, 464.

Bluefields and its trade, 436.
Bosnia, plum culture, 88.
Boundary:
    Commission, Sierra Leone, 124.
    Guatemala and Mexico, 585.
Bounties:
    Agricultural, in British colonies, 361.
    New sugar export, Germany, 510.
    Sugar, international conference, 198.
Bounty, Canadian and Nova Scotia steel, 131.
Bradford:
    Decrease of exports to United States, 566.
    Dyeing trade, wages, 142.
Bradford Chamber of Commerce and United States Consular Reports, 144.
Brazil:
    Bahia, copper, 385.
    Bahia, diamonds, 387.
    Bahia, gold production, 384.
    Bahia, granite and porphyry, 386.
    Bahia, graphite, 386.
    Bahia, iron, 385.
    Bahia, kaolin and feldspar, 386.
    Bahia, lead, 385.
    Bahia, lime, 386.
    Bahia, manganese, 385.
    Bahia, minerals, mining, etc., 384.
    Bahia, monazite, 386.
    Bahia, quicksilver, 385.
    Bahia, silver, 385.
    Bahia, zinc, 385.
British colonies:
    Agricultural bounties, 361.
    Sugar production, 478.
British consular officers and trade, 143.
British Guiana:
    Gold-mining returns, 592.
    Imports of butter, 591.
British Honduras, pearl fisheries, 628.
British imports of eggs, 358.
British trade returns, 158, 363, 594.
British trade route to China, 597.
British vs. German iron and steel manufacture, 205.
Brussels exposition (1897), 135.
Bulgaria, trade with Germany, 129.
Butter, imports into British Guiana, 591.
Butter-making machine, new, Sweden, 492.

Cacao in Samoa, 701.
California oranges, London, 160.
Canada:
    American pulp mill in Sault Ste. Marie, 773.
    Manganese ore in Nova Scotia, 353.
    Nova Scotia steel and the Canadian bounty, 131.
    Ontario, bean raising, 86.
    Purchase of the island of Anticosti, 777.
    Sault Ste. Marie and the "Soo" canals, 100.
Canal, Manchester Ship:
    American trade via, 563.
    Traffic (1895), 566.
Canal, Suez, traffic, 543.
Canals, "Soo" and Sault Ste. Marie, 100.
Canned horse meat with American labels, Europe, 588.
Carbonic acid, manufacture and uses in Germany, 756.
Carpet trade, Germany, 189.
Carriages, horseless, in Europe, 552.
Cattle exports, Austria-Hungary, 256.
Cattle, imported Austrian, regulations as to, 145.
Cattle plague in European Russia, 286.
Cauca River, Colombia, 373.
Caviar, preparation of, in Russia, 278.
Census of Germany, 245.
Cereal crops, Russia (1895), 272.
Ceylon, pearl banks, 630.
Chamber of commerce, Prussia, 175.
Chemical industry, Germany, 209.
Chemicals and colors, exports of Basle, 517.
Chile:
    Military service of foreigners, 477.
    Pearl fisheries, 631.
Chilean competition with California flour, Colombia, 355.
China:
    Amoy, decline of American kerosene trade, 140.
    British trade route to, 597.
    Effects of opening up to trade, 4.
    Hankow tea trade, 93.
    Mercantile loans for industries, 596.
    Railway enterprises, 153.
    Railway supplies, 541.
    Revenue from salt, 155.
    Shanghai, growth of, 139.
    Trade and industrial conditions, 317.
China and the United States, freight rates between, 20.
Cider making in France, 576.

Climate and public health of Samoa, 736.
Clothing and cloak strike, Germany, 112.
Coal:
  Bahia, 386.
  Miners' strike, New South Wales, 549.
  Mines and trade, Newcastle, N. S. W., 305.
Cocoanuts, Samoa, 702.
Coffee:
  Crop, Guadeloupe, 372.
  Samoa, 696.
Coin, United States gold, in Russia, 39.
Colombia:
  Barranquilla, port facilities, 379.
  Barranquilla, trade (1895), 380.
  Chilean competition with California flour, 355.
  Growth of commerce, 379.
  Pearl fisheries, 632.
  Region of the Magdalena, 372.
  River Cauca, 373.
  River Magdalena, 373.
Colonists, Mormon, in Mexico, 409.
Colony, Australian, Paraguay, 365.
Colors and chemicals, export of Basle, 517.
Conference, international, on sugar bounties, 198.
Constitution of Mexico, amendment, 387.
Consular officers and trade, British, 143.
Consular reports transmitted to other Departments, 151, 360, 593, 778.
Consular Reports, United States, and Bradford Chamber of Commerce, 144.
Consular service and foreign trade of Great Britain, 348.
Convicts, discharged, German, emigration of, 594.
Copper, Bahia, 385.
Copra values and freights, Samoa, 711.
Corinto:
  Exports, 441.
  Imports, 440.
Corn, exemption from duties on, Mexico, 360.
Corporation, Peruvian, and Peru, 381.
Cotton:
  Cultivation in Russia, 275.
  Egyptian, forecast (1896–97), 359.
  Samoa, 693.
  Spinning industry, Japan, 537.
  Yarn, American, Germany, 184.
Crops:
  Cereal, Russia (1895), 272.
  Coffee, Guadeloupe, 372.
Crops—Continued.
  Damage, Spain, 343.
  Grain, European Russia, 498.
  Hop, Russia, 283.
  Orange, Mexico, 404.
  Prospects, Spain, 549.
  Wheat, Servia (1895), 262.
Cuba:
  Exports of sugar, 149.
  Exports to United States, 148.
  Linseed oil, 615.
  Santiago de Cuba flour trade, 479.
Currency:
  Austria-Hungary, 259.
  Morocco, 45.
  Reform in Russia, 33.
Customs and duties, Siam, 25.
Cycle-tube trade, Birmingham, 329.

Debt, conversion of Mexican national, 393.
Declared exports for United States, 148.
Denmark, pearl fisheries, 632.
Diamonds, Bahia, 387.
Dresden:
  Electric street railways, 97.
  New railroad station, 96.
Dutch Guiana, openings for trade, 599.
Duties and customs, Siam, 25.
Duties on corn, exemption from, Mexico, 360.
Duty:
  Removal of, on ether of sulphur, Netherlands, 355.
  Wines and liquors in Hawaii, 772.
Dyeing trade, Bradford, wages, 142.
Dynamometer, new, 587.

East Indian trade (1894–95), 364.
Ecuador, pearl fisheries, 633.
Eggs, British imports, 358.
Egypt:
  Cotton forecast (1896–97), 359.
  Suez Canal traffic, 543.
  Sugar from, for United States, 359.
Electric lighting, Newcastle, N. S. W., 304.
Electric lighting of railway trains, South Australia, 312.
Electric plow, Germany, 588.
Electric street railways, Dresden, 97.
Electric tramways, Dublin, 764.
Emigration of discharged German convicts, 594.

England:
  American leather manufactures, 144.
  American trade via Manchester Ship Canal, 563.
  Artificial silk, 500.
  Banana shipments from Jamaica, 147.
  Birmingham cycle-tube trade, 329.
  Bradford, decrease of exports to United States, 566.
  Bradford dyeing trade, wages, 142.
  British consular officers and trade, 143.
  Industries of, and German competition, 217.
  Manchester canal traffic (1895), 566.
Ether of sulphur, removal of duty on, Netherlands, 355.
Europe:
  Canned horse meat with American labels, 588.
  Horn-comb industry, 601.
  Horseless carriages, 552.
  Jute industry, 776.
  Use of tectorium, 606.
European vs. American interests in South America, 91.
Exhibition:
  Berlin's industrial, 109.
  Horticultural, Hamburg (1897), 349.
  Jubilee, Vienna, 159.
  Pharmaceutical, Prague, 349.
  Samples, Stuttgart. 515.
  United States goods, Venezuela, 482.
  Wine apparatus in Catania, 771.
Explorations, archæological, Mexico, 585.
Export bounties, new sugar, Germany, 510.
Export houses, Germany, address book, 219.
Exports:
  Absinthe, Basle, 518.
  Berne, 520.
  Bluefields, 434.
  Bradford, to United States, decrease, 566.
  Colors and chemicals, Basle, 517.
  Corinto, 441.
  Cuba, to United States, 148.
  Declared for United States, 148.
  Flour, Austria-Hungary, 253.
  Fruit, from Sicily, falling off in, 357.
  Geneva, 518.
  Hawaiian Islands, 343.
  Hides and skins, Basle, 518.
  Hog, to Germany, 256.
Exports—Continued.
  Horgen, 519.
  Horned cattle, Austria-Hungary, 256.
  Increased, from Austria-Hungary to United States, 248.
  Japan, 4.
  Newcastle, N. S. W., 307.
  St. Gall, 521.
  San Juan del Sur, 442.
  Siam, 26.
  Silk goods, Basle, 516.
  Spun waste silk, Basle, 518.
  Sugar, from Cuba, 149.
  Sulphur, from Sicily, 357.
  Stave, Austria-Hungary, 251.
  United States, from Germany, 225.
  United States, from Malaga, 49.
  Wool, Australasia, 288.
  Zurich, 521.
Exposition:
  Brussels (1897), 135.
  Geneva model village, 136.
  Guatemala (1897), 136.
  International, Guatemala, 592.
Extraterritoriality in Siam, 24.

Fairs and industrial trade, Berlin, 110.
Farm indebtedness in Bavaria, 180.
Feldspar, Bahia, 386.
Fensterpappe, Austria, 608.
Fibers, Samoa, 700.
Fiji, tea, 701.
Finance, Russian-English view of, 38.
Finances and trade of Haiti, 346.
Fiscal changes in New South Wales, 293.
Flax and flaxseed, Argentine Republic, 611.
Flax trade, Russia, 279.
Flour and grain trade, Russia, 274.
Flour, California, Chilean competition with, Colombia, 355.
Flour trade, Santiago de Cuba, 479.
Forests of Saxony, 238.
Formosa:
  Japanese laws, 528.
  Sugar industry, 530.
France:
  Artificial silk, 499.
  Bicycles, 583.
  Cider making, 576.
  Commerce with the Transvaal, 155.
  Horn-comb industry, 601.
  Linseed oil, 615.

France—Continued.
  Purification of water by metallic iron, 571.
  Trade of, vs. United States, West Africa, 525.
Free-trade policy, Newcastle, N. S. W., 308.
Freight rates between China and the United States, 20.
Freight rates, San Juan River, 427.
Fruit exports from Sicily, falling off, 357.
Fruit shipments from Palermo, 150.
Fruit trade of Sicily with United States, 81.
Fruit trees, method of pruning, in Italy, 357.
Fruits and nuts, Spain, 53.
Fruits, dried, in Switzerland, 753.
Fruits, plants, and vegetables, Russian import regulations, 133.
Fruits, Samoa, 689.

Geneva:
  Exports, 518.
  Exposition, model village, 136.
  Transportation tariff for American goods from, to Zurich, 77, 79.
German plantations, Samoa, 710.
German vs. British iron and steel manufacture, 205.
Germany:
  Address book for export houses, 219.
  Advertising in Japan, 221.
  American bicycles, 325.
  American cotton yarns, 184.
  American horses, 228.
  American iron ore, 203.
  American shoes, 508.
  American trade methods, 164.
  Antidiphtheritic serum as a preventive, 351.
  Apples, 224.
  Auer-Welsbach patents and monazite, 242.
  Baths for miners, 201.
  Bavaria, farm indebtedness, 180.
  Beet-sugar production, 192.
  Beet-sugar returns, 195.
  Berlin's industrial exhibition, 109.
  Berlin's trade and industrial fairs, 110.
  Bimetallism, 41.
  Carpet trade, 189.
  Census, 245.
  Chemical industry, 209.
  Cloak and clothing strike, 112.
Germany—Continued.
  Commercial treaty with Russia, effects, 262.
  Competition with English industries, 217.
  Criticism of American meats, 182.
  Electric plow, 588.
  Electric street railways, Dresden, 97.
  Emigration of discharged convicts, 594.
  Exports to United States, 225.
  Fears of American competition, 162.
  Foreigners in technical schools, 588.
  German vs. American trade methods, 166.
  Glass industry, 222.
  Government aids to trade, 171.
  Government supervision of insurance companies, 130.
  Hamburg, horticultural exhibition (1897), 349.
  Hog exports to, 256.
  Imperial aid to industrial schools, 216.
  Imperial bank, 236.
  Improvement in trade, 173.
  Insurance against want of employment, 595.
  Interests in Samoa, 669.
  International conference on sugar bounties, 198.
  Horn-comb industry, 603.
  Horticultural exhibition in Hamburg 177.
  Lead-pencil manufacture, 191.
  Linseed oil, 619.
  Manufacture and uses of carbonic acid, 756.
  Margarin law, proposed, 98.
  Merchant marine, as compared with the British, 174.
  Mineral wool, mode of manufacture, 210.
  New dynamometer, 587.
  New sugar export bounties, 510.
  Potatoes as food for cattle and sheep, 90.
  Prices, 241.
  Production of iron ore, 203.
  Proposed American journal, 246.
  Prussia, chambers of commerce, 175.
  Publications beneficial to American trade, 356.
  Railway station in Dresden, 96.
  Railways, 233.
  Recent developments in trade and industries, 161.

Germany—Continued.
  Revision of laws, 179.
  Rhine vintage (1895), 239.
  Saxony, enlargement of commercial schools, 170.
  Saxony, forests, 238.
  Saxony, guide to industries, 220.
  Saxony, interest in United States Consular Reports, 359.
  Saxony, savings banks, 238.
  Stock and grain speculation, 750.
  Stuttgart, samples exhibition, 515.
  Sugar export bounties, new, 510.
  Textile industries, 502.
  Tobacco planting, 199.
  Tobacco production, 200.
  Trade with Bulgaria, 129.
  Training for trade, 161.
  Use of tectorium, 607.
  Wall paper, 190.
  Wire-nail industry, 210.
  Woolen industries, 505.
  Wurtemberg, heating of houses, 144.
Germany and Great Britain, destitution, 596.
Glass industry, Germany, 222.
Goats, angora, and the mohair trade, 141.
Gold and paper money in Russia, 34.
Gold coin, United States, in Russia, 39.
Gold-mining returns of British Guiana, 592.
Gold ores, treatment of, Australia, 309.
Gold production:
  Bahia, 384.
  Transylvania, 257.
Gold receipts at the Melbourne mint, 309.
Grain and flour trade, Russia, 274.
Grain crop, European Russia, 498.
Granite, Bahia, 386.
Graphite, Bahia, 386.
Great Britain:
  Consular service and foreign trade, 348.
  Imports of eggs, 358.
Great Britain and Germany, destitution, 596.
Greece:
  Bicycles, 333.
  Inscription on the Parthenon, 352.
Guadeloupe:
  Coffee crop, 372.
  Depression of sugar industry, 370.
Guatemala:
  Exposition (1897), 136.
  International exposition, 592.
Guatemala and Mexico, boundary, 585.
Guiana, British:
  Gold-mining returns, 592.
  Imports of butter, 591.
Guiana, Dutch, openings for trade, 599.

Haiti:
  Trade and finances, 346.
  Trade with America, 150.
Hakodate, commerce, 19.
Hamburg, horticultural exhibition (1897), 349.
Hamilton, Bermuda, harbor improvement, 147.
Hankow tea trade, 93.
Harbor, Newcastle, N. S. W., 303.
Hats, palm leaf, exports of, to United States, from Malaga, 50.
Hawaiian Islands:
  Duty on wines and liquors, 772.
  Exports, 343.
  Registration, 336.
Heating of houses in Wurtemberg, 144.
Hides and skins, export of, Basle, 518.
Honduras and United States, trade between, 474.
Honduras, British, pearl fisheries, 628.
Honduras, legislation, 354.
Hop crop of Russia, 283.
Horn-comb industry:
  France, 601.
  Germany, 603.
  Great Britain, 604.
Hornglas, Austria, 609.
Horseless carriages in Europe, 552.
Horse meat, canned, with American labels, Europe, 588.
Horses, American:
  Germany, 228.
  Ireland, 522.
Horticultural exhibition, Hamburg (1897), 349.
Hungary, flour exports, 253.

Immigration contract, Venezuela, 114.
Imports:
  Almeria, 53.
  Bluefields, 434.
  Butter, into British Guiana, 591.
  Corinto, 440.
  Eggs, British, 358.
  Japan, 4.
  Jute, Austria-Hungary, 255.
  Malaga, from United States, 51.

Imports—Continued.
  Plants, fruits, and vegetables, Russian regulations, 133.
  San Juan del Norte, 443.
  San Juan del Sur, 439.
  Siam, 27.
Income and land taxes, Newcastle, N. S. W., 308.
India:
  Jute industry, 776.
  Pearl fisheries, 635, 640.
  Trade (1894–95), 364.
  Wages, 140.
  Woolen mills, 600.
India-rubber industry, 213.
Infernal machines and Roentgen rays, 149.
Inscription on the Parthenon, 352.
Insurance against want of employment, Germany, 595.
Insurance companies:
  Government supervision. Germany, 130.
  Japan, 139.
Ireland:
  American goods, 768.
  American horses, 522.
  American machinery, 524.
  Dublin electric tramways, 764.
  Prices of agricultural produce, 523.
Iron:
  Bahia, 385.
  Industry, Russia, 265.
  Metallic, purification of water by, 571.
  Pig, made free, Sweden, 356.
Iron and steel manufacture, German vs. British, 205.
Iron ore:
  American, Germany, 203.
  Production, Germany, 203.
Irrigation in Siam, 30.
Italy:
  Anticipated results of the Sicilian sulphur trust, 773.
  Exhibition of wine apparatus in Catania, 771.
  Foreign trade (1895), 589.
  Messina, lemons and lemon orchards, 82.
  Method of pruning fruit trees, 357.
  Palermo and Naples, new vessels between, 146.
  Palermo, fruit shipments, 150.
  Pearl fisheries, 641.
  Sicily, exports of sulphur, 357.
Italy—Continued.
  Sicily, falling off in fruit exports from, 357.
  Sicily, fruit trade with United States, 81.
  Sulphur trust, 489.
  Tariff changes, 771.
  Transportation tariff for American goods from Genoa to Zurich, 77, 79.
  Use of tectorium, 609.

Jamaica, banana shipments to England, 147.
Japan:
  Agricultural products, 2.
  American manufactures, 15.
  A new silk market, 772.
  Banking and foreign trade, 3.
  Commercial education, 1.
  Cotton-spinning industry, 537.
  Exports, 4, 9.
  Foreign trade, 150.
  Formosa, Japanese laws, 528.
  Formosa, sugar industry, 530.
  German advertising, 221.
  Growth of manufactures, 367.
  Hakodate, commerce, 19.
  Imports, 4.
  Insurance companies, 139.
  Manufactures, 2.
  Merchant marine, 17.
  Mineral products, 2.
  Products of, vs. foreign, 2.
  Progress and present condition, 12.
  Trade with United States, 1.
  Treaty with Russia, 264.
  Wages, 2.
Jubilee exhibition, Vienna, 159.
Jute:
  Imports, Austria-Hungary, 255.
  Industry in Europe and in the Orient, 776.

Kaolin, Bahia, 386.
Kerosene, American, decline of trade, Amoy, 140.
Kiangsu railway, 154.
Korea, railroad concession to Americans, 358.

Labels, American, on canned horse meat, Europe, 588.
Labor:
  Belgium, 314.
  Samoa, 684.

Lactator, or milking machine, Sweden, 496.
Lake Nicaragua freight rates, 427.
Land taxes and income, Newcastle, N.S. W., 308.
Land titles in Samoa, 717.
Law:
  Banking, Mexico, 395.
  Proposed margarin, Germany, 98.
Laws, Japanese, Formosa, 528.
Lead, Bahia, 385.
Lead-pencil manufacture, Germany, 191.
Leather manufactures, American, England, 144.
Legislation, Honduras, 354.
Lemons and lemon orchards, Messina, 82.
Lemons and oranges, Sonora, 405.
Lemons, exports of, to United States, from Malaga, 50.
Lime, Bahia, 386.
Linseed oil:
  Argentine Republic, 613.
  Cuba, 615.
  France, 615.
  Germany, 619.
  Great Britain, 621.
Liquid air, industrial use, 211.
Loans, mercantile, for Chinese industries, 596.
London, California oranges, 160.
Lumber trade, United States, Uruguay, 486.

Machine:
  Milking, or lactator, Sweden, 496.
  New butter-making, Sweden, 492.
Machinery, American, Ireland, 524.
Machinery and bicycles, market for, Nicaragua, 467.
Madagascar, pearl fisheries, 643.
Magdalena, region of, Colombia, 372.
Magdalena River, Colombia, 373.
Maguey plant, Mexico, 396.
Malaga:
  Exports to United States, 49.
  Imports into, from United States, 51.
  Trade with United States, 49.
Manchester Ship Canal:
  American trade via, 563.
  Traffic (1895), 566.
Manganese, Bahia, 385.
Manganese ore, Nova Scotia, 353.
Manuring, excessive, Spain, 591.
Margarin law, proposed, Germany, 98.
Market for machinery and bicycles, Nicaragua, 467.
Market for United States goods, Nicaragua, 423.
Martinique, metallic sand, 148.
Meat and other exports, Newcastle, N.S.W., 307.
Meat, horse, canned, with American labels, Europe, 588.
Meats, American, German criticism, 182.
Melbourne mint, receipts of gold, 309.
Merchant marine:
  Great Britain and Germany, 174.
  Japan, 17.
Mescal plant, Mexico, 396.
Messina, lemons and lemon orchards, 82.
Metal and mineral trade, Spain, 590.
Mexico:
  Abolition of interstate tariffs, 396.
  Archæological explorations, 585.
  Banking law, 395.
  Beet sugar, 410.
  Constitution of, amendment, 387.
  Exemption from duties on corn, 360.
  Language as a factor of trade, 406.
  Maguey plant, 396.
  Mescal plant, 396.
  Mormon colonists, 409.
  National debt, conversion, 393.
  Orange crop, 404.
  Pearl fisheries, 643, 644.
  Perfilado, or drawn needlework, 408.
  President ad interim, 388.
  Pulque manufacture, 396, 400.
  Removal of interstate taxes, 354.
  Sonora, oranges and lemons, 405.
  Tehuantepec railway lease, 585.
  Tequila manufacture, 396.
Mexico and Guatemala, boundary, 585.
Military service of foreigners in Chile, 477.
Milking machine, or lactator, Sweden, 496.
Mills, woolen, in India, 600.
Mineral and metal trade, Spain, 590.
Mineral products, Japan, 2.
Mineral wool, how made, 210.
Miners, baths for German, 201.
Miners, coal, and coal trade, Newcastle, N. S. W., 305.
Miners', coal, strike of New South Wales, 549.
Mining returns, gold, British Guiana, 592.
Mint, Melbourne, receipts of gold, 309.
Missionaries in Siam, 23.
Mohair trade and angora goats, 141.

Monazite and Auer-Welsbach patents, Germany, 242.
Monazite, Bahia, 386.
Monopoly, salt, Spain, 55.
Mormon colonists, Mexico, 409.
Morocco, currency, 45.
Mozambique and South African trade, 137.

Nail, wire, industry, Germany, 210.
Naphtha joint-stock company, Austria-Hungary, 257.
Naples and Palermo, new vessels between, 146.
Needlework, drawn, or perfilado, Mexico, 408.
Netherlands India, pearl fisheries, 645.
Netherlands, removal of duty on ether of sulphur, 355.
New Caledonia:
  American trade, 592.
  Pearl fisheries, 646.
Newcastle, N. S. W.:
  As a manufacturing center, 307.
  Coal mines and coal trade, 305.
  Electric lighting, 304.
  Free-trade policy, 308.
  Harbor, 303.
  Income and land taxes, 308.
  Industries and trade, 303.
  Meat and other exports, 307.
  Population, 305.
  Wool trade, 307.
New South Wales:
  Fiscal changes, 293.
  Strike of coal miners, 549.
  Wool (1895), 292.
Newspapers and banks, Siam, 25.
New Zealand and Samoa, 675.
Nicaragua:
  Bluefields and its trade, 436.
  Bluefields, banana trade, 436.
  Bluefields, imports and exports, 434.
  Conditions at San Juan del Norte, 413.
  Corinto and San Juan del Sur, 439.
  Corinto, exports, 441.
  Corinto, imports, 440.
  Cost of goods delivered, 451.
  Lake Nicaragua, freight rates, 427.
  Market for machinery and bicycles, 467.
  Market for United States goods, 423.
  Pearl fisheries, 647.
  Port of Bluefields, 464.
Nicaragua—Continued.
  Port of San Juan and the San Juan River, 461.
  Prices, 421.
  Resources and industrial conditions, 410.
  San Juan del Norte, imports and exports, 443.
  San Juan del Sur, 439.
  San Juan del Sur, exports, 442.
  San Juan River, freight rates, 427.
  Steamboat service, 465.
  United States interests, 469.
  Wages, 411.
  Windmills, 358.
Nicaragua, Lake, freight rates, 427.
Nova Scotia, manganese ore, 353.
Nova Scotia steel and the Canadian bounty, 131.
Nuts and fruits, Spain, 53.

Olives, exports of, to United States from Malaga, 50.
Ontario, bean raising, 86.
Opium and poppy, Persia, 83.
Orange crop, Mexico, 404.
Oranges and lemons, Sonora, 405.
Oranges, California, London, 160.
Ore:
  American, iron, Germany, 203.
  Iron, production of Germany, 203.
  Manganese, Nova Scotia, 353.
Ores, gold, treatment of, Australia, 309.

Pacific coast of South America, maritime trade, 116.
Pagopago, harbor, 746.
Palermo and Naples, new vessels between, 146.
Palermo, fruit shipments, 150.
Palm-leaf hats:
  Exports to United States from Malaga, 50.
  Manufacture, Malaga, 748.
Paper money and gold in Russia, 34.
Paper, wall, in Germany, 190.
Paraguay, Australian colony, 365.
Parthenon, inscription on the, 332.
Patents, Auer-Welsbach, and monazite in Germany, 242.
Pearl banks of Ceylon, 630.
Pearl fisheries:
  Arabia, 623.
  Australia and Torres Straits, 624.

Pearl fisheries—Continued.
  British Honduras, 628.
  Chile, 631.
  Colombia, 632.
  Denmark, 632.
  Ecuador, 633.
  India, 635, 640.
  Italy, 641.
  Madagascar, 643.
  Mexico, 643, 644.
  Mozambique, 648.
  Netherlands India, 645.
  New Caledonia, 646.
  Nicaragua, 647.
  Persian Gulf, 653.
  Philippine Islands, 647.
  Portugal, 647.
  Russia, 648.
  Siam, 648.
  Singapore, 649.
  Spain, 651.
  Turkey, 653.
  Venezuela, 656.
Pearl fisheries and pearl supply, 622.
Pearl market:
  Bagdad, 653, 654.
  Dublin, 654.
  Glasgow, 655.
  Liverpool, 656.
  London, 654.
  Paris, 633.
  Switzerland, 651.
Pencil, lead, manufacture, Germany, 191.
Perfilado, or drawn needlework, Mexico, 408.
Persia, poppy and opium, 83.
Persian Gulf, pearl fisheries, 653.
Peru:
  Increase of trade with United States, 569.
  Salt monopoly, 55.
  Sugar industry, 56.
Peru and the Peruvian Corporation, 381.
Pharmaceutical exhibition, Prague, 349.
Philippine Islands, pearl fisheries, 647.
Pig-iron made free, Sweden, 356.
Plague, cattle, European Russia, 286.
Plants, fruits, and vegetables, Russian import regulations, 133.
Plow, electric, Germany, 588.
Plum culture, Bosnia, 88.
Poppy and opium, Persia, 83.
Population:
  Newcastle, N. S. W., 305.
  Samoa, 319.
Porphyry, Bahia, 386.
Port:
  Barranquilla, facilities, 379.
  Bluefields, 464.
  Charges, St. George's, Bermuda, 481.
  San Juan and the San Juan River, 461.
Portugal:
  Pearl fisheries, 647.
  Proposed changes in tariff, 146.
Potatoes as food for cattle and sheep, Germany, 90.
Prague, pharmaceutical exhibition, 349.
President ad interim, Mexico, 388.
Prices in Germany, 241.
Prices of agricultural produce, Ireland, 523.
Pruning fruit trees, method of, Italy, 357.
Prussia, chambers of commerce, 175.
Pulp mill, American, Sault Ste. Marie, 773.
Pulque manufacture, Mexico, 396, 400.
Purification of water by metallic iron, 571.

Railroad, Sierra Leone, 124, 125.
Railroad station, new, Dresden, 96.
Railway:
  Almeria, 53.
  Concession to Americans in Korea, 358.
  Electric street, Dresden, 97.
  Enterprises, China, 153.
  Germany, 233.
  Great Siberian, progress, 269
  Kiangsu, 154.
  New, Siberia, 272.
  New, Spain, 591.
  Supplies for China, 541.
  Tehuantepec, lease, 585.
Railway and steamship lines, new, Venezuela, 484.
Railway trains, electric lighting, South Australia, 312.
Raisins:
  Exports to United States from Malaga, 50.
  Wine manufactured from, Russia, 282.
Raw-silk production, Russia, 281.
Registration in the Hawaiian Islands, 336.
Religion of the Samoans, 719.
Reptiles in Samoa, 713.
Rhine vintage (1895), 239.
Roentgen rays and infernal machines, 149.
Rubber, india, industry, 213.
Russia:
  Beet sugar, 284.
  Cattle plague, 286.

Russia—Continued.
  Cereal crops (1895), 272.
  Currency reform, 33.
  Cultivation of cotton, 275.
  Effects of commercial treaty with Germany, 262.
  Flax trade, 279.
  Gold and paper money, 34.
  Grain and flour trade, 274.
  Grain crop, 498.
  Hop crop (1895), 283.
  Iron industry, 265.
  Manufacture of wine from raisins, 282.
  Pearl fisheries, 648.
  Preparation of caviar, 278.
  Production of raw silk, 281.
  Production of salt, 95.
  Progrèss of the Great Siberian Railway, 269.
  Regulations as to imports of plants, fruits, and vegetables, 133.
  Siberia, new railway, 272.
  Treaty with Japan, 264.
  United States gold coin, 39.
  Use of tectorium, 609.
Russian finance, English view, 38.
Russian view of seal hunting, 132.

St. Gall, exports, 521.
St. George's, Bermuda, port charges, 481.
Salt:
  Monopoly, Spain, 55.
  Production, Russia, 95.
  Revenue, China, 155.
Samoa:
  Agricultural conditions, 688.
  American citizens and interests, 724.
  American vs. Australian canned meats, 715.
  Cacao, 701.
  Cattle, sheep, and hogs, 714.
  Climate and public health, 736.
  Cocoanuts, 702.
  Coffee, 696.
  Commerce (1894), 724.
  Copra values and freights, 711.
  Cotton, 693.
  Fibers, 700.
  Fish and game, 713.
  Fruits, 689.
  Garden vegetables, 690.
  German interests, 669.
  German plantations, 710.
Samoa—Continued.
  Government, commerce, products, and people, 656.
  Indian corn, 691.
  Industrial conditions, 676.
  Insects, 713.
  Labor, 684.
  Land titles, 717.
  Municipality of Apia, 721.
  Pagopago harbor, 746.
  Physical features, 677.
  Physical qualities of the inhabitants, 687.
  Prisons, 723.
  Religion, 719.
  Reptiles, 713.
  Salaries, 732.
  Small grain, 692.
  Sugar and rice, 692.
  Taxation and revenue, 729.
  Tea, 701.
  Tobacco, 692.
  Woods, 698.
Samoa and New Zealand, 675.
Samoa and the Berlin treaty, 656.
Samples exhibition, Stuttgart, 515.
Sand, metallic, Martinique, 148.
San Juan del Norte:
  Conditions, 413.
  Imports and exports, 443.
  Port, and the San Juan River, 461.
San Juan del Sur:
  Exports, 442.
  Imports, 439.
San Juan River and Lake Nicaragua, freight rates, 427.
Santiago de Cuba, flour trade, 479.
Sault Ste. Marie and the "Soo" canals, 100.
Savings banks of Saxony, 238.
Saxony:
  Enlargement of commercial schools, 170.
  Forests, 238.
  Guide to industries, 220.
  Interest in United States Consular Reports, 359.
  Savings banks, 238.
Schools:
  Commercial, enlargement of, Saxony, 170.
  German technical, foreigners in, 588.
  Industrial, Germany, imperial aid, 216.
Scythe industry, Austria-Hungary, 258.
Seal hunting, Russian view, 132.
Serum, antidiphtheritic, as a preventive, 351.

Serum, antidiphtheritic, dangerous, 151.
Servia:
  Decline of wine industry, 262.
  Wheat crop (1895), 262.
Shanghai, growth of, 139.
Shoes, American, for Germany, 508.
Siam:
  Bangkok, how to reach, 25.
  Banks and newspapers, 25.
  Duties and customs, 25.
  Exports, 26.
  Extraterritoriality, 24.
  Foreign trade, 21.
  Imports, 27.
  Irrigation, 30.
  Missionaries, 23.
  Pearl fisheries, 648.
Siberia, new railway, 272.
Siberian Railway, progress, 269.
Sicily:
  Exports of sulphur, 357.
  Falling off in fruit exports, 357.
  Fruit trade with United States, 81.
Sierra Leone, railroad, boundary commission, trade, etc., 124.
Silk:
  Goods, export, Basle, 516.
  Market, new, Japan, 772.
  Raw, production, Russia, 281.
  Spun waste, export, Basle, 518.
Silk, artificial:
  England, 500.
  France, 499.
Silver in Bahia, 385.
Singapore, pearl fisheries, 649.
Skins and hides, export, Basle, 518.
Sonora, oranges and lemons, 405.
"Soo" canals and Sault Ste. Marie, 100.
South America:
  American vs. European interests, 91.
  Maritime trade of Pacific coast, 116.
  United States trade interests, 471.
South Wales, tin-plate industry, 67, 72.
Spain:
  Almeria, imports, 53.
  Almeria, railways, 53.
  Bicycles, 334.
  Commerce (1895), 47.
  Crop prospects, 549.
  Damage to crops, 343.
  Demand for wheat, 344.
  Excessive manuring, 591.
  Exports to United States, Malaga, 49.
Spain—Continued.
  Fruits and nuts, 53.
  Imports into Malaga from United States, 51.
  Malaga's trade with United States, 49.
  Mineral and metal trade, 590.
  New railways, 591.
  Palm-leaf hat manufacture in Malaga, 748.
  Pearl fisheries, 650.
  Trade of Almeria, 52.
Spinning, cotton, industry of Japan, 537.
Stave exports, Austria-Hungary, 251.
Steamboat service, Nicaragua, 465.
Steam routes and distances from Samoa, 715.
Steamship and railway lines, new, Venezuela, 484.
Steel and iron manufacture, German vs. British, 205.
Steel, Nova Scotia, and the Canadian bounty, 131.
Stock and grain speculation, Germany, 750.
Street railway, electric, Dresden, 97.
Strike:
  Cloak and clothing, Germany, 112.
  Coal miners', New South Wales, 549.
Stuttgart, samples exhibition, 515.
Suez Canal traffic, 543.
Sugar:
  Egyptian, for United States, 359.
  Export bounties, new, Germany, 510.
  Exports from Cuba, 149.
  Industry, depression of, Guadeloupe, 371.
  Industry, Formosa, 530.
  Industry, Peru, 56.
  Production, Argentine Republic, 369.
  Production, British colonies, 478.
  Trade, Austria-Hungary, 252.
Sugar, beet:
  Mexico, 410.
  Production, Germany, 192.
  Returns, Germany, 195.
  Russia, 284.
Sugar bounties, international conference, 198.
Sugar, cane, vs. beet, Austria-Hungary, 257.
Sulphur, ether of, removal of duty, Netherlands, 355.
Sulphur, exports of, from Sicily, 357.
Sulphur trust:
  Italy, 489.
  Sicilian, anticipated results, 773.
Sumatra tobacco for United States, 345.

Sweden:
- New butter-making machine, 492.
- Milking machine, or lactator, 496.
- Pearl fisheries, 651.
- Pig iron made free, 356.

Switzerland:
- Basle, export of absinthe, 518.
- Basle, export of colors and chemicals, 517.
- Basle, export of hides and skins, 518.
- Basle, export of silk goods, 516.
- Basle, export of spun waste silk, 518.
- Berne, exports, 520.
- Bicycle, new Swiss, 332.
- Dried fruits, 753.
- Geneva, exports, 518.
- Horgen, exports, 519.
- Model village at the Geneva Exposition, 136.
- Pearl supply, 651.
- Revised telephone tariff, 589.
- St. Gall, exports, 521.
- United States trade, 516.
- Use of tectorium, 610.
- Zurich, exports, 521.

Tariff:
- Bermuda, 762.
- British Central Africa, 527.
- Changes, Antigua, 117.
- Changes, Italy, 771.
- New, tobacco, Belgium, 356.
- Portuguese, proposed changes, 146.
- Transportation, for American goods from Geneva to Zurich, 77, 79.

Tariffs, abolition of interstate, Mexico, 396.

Taxes:
- Interstate, Mexico, removal, 354.
- Land and income, Newcastle, N. S. W., 308.

Tea:
- Fiji, 701.
- Samoa, 701.
- Trade, Hankow, 93.

Tectorium:
- Austria, 606.
- Germany, 607, 609.
- Italy, 609.
- Russia, 609.
- Switzerland, 610.

Tehuantepec railway lease, 585.

Telephone tariff, revised, Switzerland, 589.

Tequila manufacture, Mexico, 396.

Textile industries, Germany, 502.

Tin-plate industry, South Wales, 67, 72.

Tobacco:
- New tariff, Belgium, 356.
- Planting, Germany, 199.
- Production, Germany, 200.
- Samoa, 692.
- Sumatra, for United States, 345.

Tramways, electric, Dublin, 764.

Transvaal, French commerce with, 155.

Treaty:
- Berlin, and Samoa, 656.
- Commercial, Germany and Russia, 262.
- Japan and Russia, 265.

Trees, fruit, method of pruning, Italy, 357.

Trust, sulphur, Italy, 489.

Turkey:
- Bagdad, pearl market, 653, 654.
- Constantinople, pearl market, 654.
- Pearl fisheries, 653.

United Kingdom:
- American trade via Manchester Ship Canal, 563.
- Angora goats and the mohair trade, 141.
- Bradford Chamber of Commerce and United States Consular Reports, 144.
- Bradford, decrease of exports to United States, 566.
- Bradford dyeing trade, wages, 142.
- Birmingham cycle-tube trade, 329.
- Consular service and foreign trade, 348.
- Dublin electric tramways, 764.
- England, American leather manufactures, 144.
- England, artificial silk, 500.
- England, banana shipments from Jamaica, 147.
- Horn-comb industry, Aberdeen, 604.
- Horn-comb industry, Leeds, 605.
- Ireland, American horses, 522.
- Ireland, American machinery, 524.
- Ireland, prices of agricultural produce, 523.
- Linseed-oil industry, 621.
- London, California oranges, 160.
- Manchester canal traffic (1895), 566.
- Pearl market and supply, Dublin, 655.
- Pearl market and supply, Glasgow, 655.
- Pearl market and supply, Liverpool, 656.
- Pearl market and supply, London, 654.
- South Wales tin-plate industry, 67, 72.

United States:
  British consular officers and trade, 143.
  Decrease of exports from Bradford, 566.
  Egyptian sugar, 359.
  Exports declared for, 148.
  Exports from Cuba, 148.
  Exports from Germany, 225.
  Exports from Malaga, 49.
  Fruit trade of Sicily, 81.
  Gold coin in Russia, 39.
  Imports into Malaga, 51.
  Increase of trade with Peru, 569.
  Increased exports from Austria-Hungary, 248.
  Interests in Nicaragua, 469.
  Lumber trade, Uruguay, 486.
  Sumatra tobacco, 345.
  Trade interests, South America, 471.
  Trade of, vs. France, West Africa, 525.
  Trade with Austria-Hungary, 249.
  Trade with Japan, 1.
  Trade with Malaga, 49.
  Trade, Switzerland, 516.
United States and China, freight rates between, 20.
United States and Honduras, trade between, 474.

Vegetables, plants, and fruits, Russian import regulations, 133.
Venezuela:
  Exhibition of United States goods, 482.
  Immigration contract, 114.
  New steamship and railway lines, 484.
  Pearl fisheries, 656.
  Steam coast navigation, 777.
Vessels, new, between Palermo and Naples, 146.
Vienna, jubilee exhibition, 159.
Vintage, Rhine (1895), 239.

Wages:
  Bradford dyeing trade, 142.
  India, 140.
  Japan, 2.
  Nicaragua, 411, 420.
Wall paper in Germany, 190.
Water, purification, by metallic iron, 571.
Windmills in Nicaragua, 358.
Wine:
  Apparatus exhibition in Catania, 771.
  Exports to United States from Malaga, 50.
  Industry, Servia, decline, 262.
  Manufactured from raisins, Russia, 282.
  Production of the world, 770.
Wheat:
  Crop, Servia (1895), 262.
  Demand for, Spain, 344.
Wire-nail industry, Germany, 210.
Woods in Samoa, 698.
Wool:
  Exports, Australasia, 288.
  New South Wales (1895), 292.
  Production, decrease, Australia, 287.
  Trade, Newcastle, N. S. W., 307.
Wool, mineral, how made, 210.
Woolen industries, Germany, 505.
Woolen mills in India, 600.
Wurtemberg, heating of houses, 144.

X rays and infernal machines, 149.

Yarns, American cotton, Germany, 184.

Zinc, Bahia, 385.
Zurich:
  Exports, 521.
  Transportation tariff for American goods to, from Geneva, 77, 79.

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Fischer, H. F. (consular agent, Almeria), 53.
Germain, E. (consul, Zurich), 77, 79, 589, 753, 770.
Gorman, J. B. (consul, Matamoros), 408, 410.
Griffin, W. T. (commercial agent, Limoges), 583.
Grinnell, W. F. (consul, Manchester), 563, 566.
Hammond, E. P. T. (consul, Budapest), 240, 262.
Hanger, M. (consul, Hamilton, Bermuda), 147.
Harris, N. (consul, Leeds), 605.
Herod, J. R. (secretary of legation, Tokyo), 528.
Hollis, W. S. (consul, Mozambique), 137, 527.
Horton, G. (consul, Athens), 333.
Howells, A. (consul, Cardiff), 67, 72.
Hürner, R. (vice consul, Bagdad), 653.
Hurst, C. B. (consul, Prague), 349.
Hyatt, J. T. (vice-consul, Santiago de Cuba), 479.
Jastremski, L. (consul, Callao), 56, 116, 381, 569.
Jernigan, T. R. (consul-general, Shanghai), 139.
Johnson, A. C. (consul, Stuttgart), 144, 515.
Jones, A. C. (consul, Chinkiang), 12.
Jones, W. S. (consul-general, Rome), 589, 609, 641, 771.
Judd, M. (consul-general, Vienna), 112, 248, 259, 606.
Karel, John (consul-general, St. Petersburg), 33, 34, 39, 95, 132, 133, 264, 265, 270, 272, 274, 275, 278, 279, 281, 282, 283, 284, 286, 498, 609, 648.

Kay, G. de (consul-general, Berlin), 109, 110, 225, 246, 609.
Keenan G. (consul, Bremen), 228.
Keightley, S. (vice-commercial agent, Newcastle, N.S.W.), 303, 549.
Kirk, R. J. (consul, Copenhagen), 632.
La Ronciére, St. C. de (vice-consul, Guadeloupe), 371, 372.
Le Mescam, L. (vice-commercial agent, Nouméa), 592, 646.
Little, W. M. (consul, Tegucigalpa), 354, 474.
MacBride, R. J. (consul, Leith), 358.
McCall, C. (commercial agent, Sault Ste. Marie, 100, 773.
McDaniel, R. P. (consul, Bahia), 364.
McDonald, A. (minister resident, Teheran), 83.
McIvor, N. W. (consul-general, Kanagawa), 19, 530, 537.
McKenzie, J. A. (minister, Lima), 55.
Maratta, D. W. (consul-general, Melbourne), 307, 309, 312.
Mason, F. H. (consul-general, Frankfort), 184, 205, 242, 325, 508, 510, 607, 756.
Masterson, W. W. (consul, Aden), 623.
Meeker, C. (consul, Bradford), 141, 142, 143, 144, 348, 566.
Merritt, H. F. (consul, Barmen), 17, 171, 173, 175, 196, 198, 201, 203, 209, 210, 211, 213.
Mills, E. (chargé d'affaires ad interim and consul-general, Honolulu), 337, 343, 772.
Monaghan, J. C. (consul, Chemnitz), 97, 129, 166, 170, 179, 216, 217, 219, 220, 221, 222, 224, 233, 236, 238, 359, 502, 505.
Moore, T. E. (commercial agent, Weimar), 41, 98, 130, 180, 200, 245, 262, 351, 552, 750.
Morey, W. (consul, Colombo), 630.
Morlan, A. E. (consul, Belize), 628.
Morris, H. C. (consul, Ghent), 140, 774, 775, 776.
Morse, A. B. (consul, Glasgow), 655.
Morss, S. E. (consul-general, Paris), 601, 633.
Mulligan, J. H. (consul-general, Apia), 656.
Muth, J. (consul, Magdeburg), 195, 512.
Neal, J. E. (consul, Liverpool), 656.
O'Hara, T. (consul, San Juan del Norte), 147, 410, 423, 451, 460, 461, 464, 465, 467, 471, 647.
O'Neil, T. B. (consul, Stockholm), 492, 496, 651.
Opp, F. (consul, Breslau), 192.
Parker, G. F. (consul, Birmingham), 329.
Patterson, A. J. (consul, Demerara), 147, 591, 592.
Peirce, H. H. D. (chargé d'affaires ad interim, St. Petersburg), 269.
Pendleton, M. P. (consul, Pictou), 131.
Penfield, F. C. (agent and consul-general, Cairo), 359.
Plumacher, E. H. (consul, Maracaibo), 114, 482, 484, 656, 777.
Polk, V. L. (consul-general, Calcutta), 635.
Pooley, R. P. (consul, Freetown), 124, 125.
Pratt, E. S. (consul-general, Singapore), 649.
Pringle, D. L. (consul-general, Guatemala), 592.
Quinby, W. E. (minister, The Hague), 355.
Rairden, B. S. (consul, Batavia), 645.
Ransom, M. W. (minister, Mexico), 360, 387, 390, 393.
Read, S. P. (consul, Tientsin), 541.
Richman, I. B. (consul-general, St. Gall), 516, 610.
Ridgely, B. H. (consul, Geneva), 136, 332, 651.
Roberts, F. W. (consul, Nogales), 405.
Robertson, W. H. (consul, Hamburg), 349, 619, 777.
Roosevelt, G. W. (consul, Brussels), 356.
Savage, J. M. (consul, Dundee), 604.
Schramm, E. (consul, Montevideo), 486.
Sepulvida, I. (secretary of legation, Mexico), 585.
Seymour, C. (consul, Canton), 20.
Seymour, W. H. (consul, Palermo), 150, 146, 357.
Short, L. (consul-general, Constantinople), 654.
Sill, J. M. B. (consul-general, Seoul), 358.
Smythe, H. M. (consul-general, Port-au-Prince), 150, 346.
Stephan, T. M. (consul, Annaberg), 88, 174, 189, 190, 191, 199, 203, 251, 268.
Strickland, P. (consul, Gorée-Dakar), 525.
Strobel, E. H. (minister, Santiago), 477.
Thomas, C. (consul, Marseilles), 615.
Thompson, T. L. (minister, Rio de Janeiro), 91.
Tingle, E. W. S. (consul, Brunswick), 164.
Tucker, J. G. (consul, Martinique), 148.
Uhl, E. F. (ambassador, Berlin), 151.
Vifquain, V. (consul-general, Panama), 632.

Viosca, J., jr. (vice-consul, La Paz), 641.
Wamer, W. D. (consul, Cologne), 161, 162, 182, 356.
Weatherill, W. J. (consular agent, Brisbane), 628.
Wetter, E. T. (consul, Tamatave), 643.
Wilbor, J. B. (vice-consul, Lisbon), 647.
Willett, E. W. (commercial agent, St. George's, Bermuda), 481, 762.
Williams, R. O. (consul-general, Habana), 148, 149, 615.
Young, E. (consul, Windsor, N. S.), 353.

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